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**FIGURE 4522**

GGCACGAGGCGGCCTCCCTGCCCTTCACGGCCCGCCTGCCTCCCTGCCCAAGTCCTGAGCCACCATGCTGACCC  
CGATGGTGGCCGGGGGGGTGGTGTTCCTCGACTCTTCCTCCTCTCCAAGAACACGCTCCAGCGGCTGCCCCAGC  
TACGCTGGGAGGAGGCCGACGCAGTCATTGTCTCAGCCAGGCTGGTGTCTCTGTCCAGGCCATCATGCGCTCCA  
CTGCCGGCTACATCGTCTCCACCTCCTGCAAGCACATCATTGATGACCAACACTGGCTGTCTCTGCCTACACGC  
AATTTGCTGTGCCCTACTTCATCTACGACATCTACGCCATGTTCTCTGTCACTGGCACAAGCACCAGGTCAAAG  
GGCATGGAGGGGACGACGGAGCGGCCAGAGCCCCGGGCAGCACGTGGGCCATAGCGCGTGGCTACCTGCACAAGG  
AGTTCCTCATGGTGTCTCCACCATGCCGCCATGGTGTCTGGTGTGCTTCCCACTCTCAGTGGTGTGGCGACAGGGTA  
AGGGAGACTTCTTTCTGGGTTGCATGTTGATGGCAGAGGTGAGCACGCCCTTCGTCTGCCCTGGCAAGATCCTCA  
TCCAGTACAAGCAGCAGCACACACTGCTGCACAAGGTGAACGGGGCCCTGATGCTGCTCAGCTTCCTCTGCTGCC  
GGGTGCTGCTCTTTCCCTACCTGTACTGGGCCTACGGGCGCCATGCCGGCCTGCCCCCTGCTGGCCGTGCCCTGG  
CCATCCCTGCCACGTC AACCTGGGCGCTGCGCTGCTCCTGGCCCCCTCAGCTCTACTGGTTCCTTCCTCATCTGCC  
GTGGGGCCTGCCGCCCTCTTCTGGCCCCGCTCCCGGCCGCCCCCGGCCTGCCAGGCCCAGGACTGAGGGCGGGGGC  
CGGGACCTCCCTCCCTCCCCACCCCCACCCCCGTTGGAGACAGGGCTCTGGGGCTGATGGCTGGGGTTGGGAGCCAG  
GGTCTCTTGCCCGGACAACCCAGGACTGACGATGACCCGAAAGGGAAGAGGGCCCCATCTCTCGGGGACTGAG  
GGGGTGGAGAGAGGGGACCTCTTCCCCCTACTCTGCCCCCTTCTGACACCCCTTGCGCTGGAGGAGGGGAGGGG  
GCACCGCCTCCCACCCACTGAGGGCAGGAGGGCTTGTGGGGAGGGACACCAACAGGGTTTCAAGGGGACCAGGAG  
TCAGAAATGTGGGGAGACGCCTCTGCCAAGGCCATCCCAGCCCCCTATGCTGCCATCCCCCAGGGCTCCCCATCACC  
CGAGAGGAGAGGACGCCCCAACTAACCCCCGCTGGCCCTCGGGCCTCCCGAGTGGCCGGCTGCAACCACGGCTCC  
TCTCCAGGGTAGGCCAGCTTGAGGAATCTTATTTATTTTATTTATTTATTTACCCAAATTTGAACTAGTCTGTTGGGTT  
GGGGGAAGGAGGTGGCTGCTACCCCCAAGCCTTCCAGTGCTGACAACCCCGGGGGCAGGCGAGGGCGCCCAGTC  
CCTCACCATCGGCTGCACATCGCGCCCTCGGGCCCTGCCATGTCCCTGGTGTCTACTGACCTCTCAAGGCTTCCTC  
CAATCTGGGGTCGGGGGACCTGGGAGGTGCTTTACAGACCGCTAATAAAAGACGATCTGCGTGAACGCCAAAAA  
AAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4523**

MASTAGYIVSTSCCKHIIDDQHWLSSAYTQFAVPYFIYDIYAMFLCHWHKHQVKGHGGDDGAARAPGSTWAIARGY  
LHKEFLMVLHHAAMVLVCFPLSVVWRQGKGDFFLGCMLEAEVSTPFVCLGKILIQYKQQHTLLHKVNGALMLLSF  
LCCRVLLFPYLYWAYGRHAGLPLLAIVPLAIPAHVNLGAALLAPQLYWFFLICRGACRLFWRPSRPPACQAQD

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**FIGURE 4524**

CGTTGGCCCTTGGCCGCGGACCGCGTGGGCCGAGAACTTTGCCAGACGAGACTTGTTTTCTCTGGGCAGTTGGAG  
GGTCTCGCGGCTCCTACCCCTTTTTTGGAACGGATCATTTTAAAAGTTCTCGTTAGAAACCAATTCGGCGCCGGCA  
CCCTTTGGGTGAAACCTAATCAGCCCGCGACGCTGCCTTTCTCACTGGTCACGGGCAACAGCTAGGCTGCTGTTA  
TTTCGCAAGGCAGAAAGAGAAAAGGCATCCTCGCGAGCAGATCAGGAACCTCGGGGATAAATCCTTTTGTGGCTTC  
AAGTGTCTAAGTACATTAGAGTCAGGAACGGCGCTTTCCAGCGTCCGCCATTTTTGTGGCGTCACCGCGTCGCTG  
CTACGGCTTGGGGTAGCGGGAGGGCAGACTCTGGGCGCCACTCCCGGGCCGGTCATGAACGGGCGGCGGACGGC  
GAAGTGGACTACAAAAAAAAATACCGGAATCTGAAGCGGAAGCTCAAGTTCCTCATCTACGAGCACGAGTGCTTC  
CAGGAGGAGCTGAGGAAAGCGCAAAGGAAATTACTGAAGGTGTCCCGGGACAAGAGTTTCCTCCTAGACCGACTT  
CTGCAGTACGAGAACGTGGATGAAGACTCTTCGGACTCAGATGCCACTGCATCATCAGATAACAGCGAGACGGAG  
GGGACACCCAAGTTGTCTGACACACCGGCCCTAAGAGGGTTTTCCCTTCAGGCCTCCGGGGTCCCCTCCCCATA  
CCTGAGCTCGCTGGCCTCCTCCCGCTACCCCCCATTCCTTCTGACTACCTGGCCCTGCAGCTGCCCGAGCCAG  
TCCCCTGAGGCCCAAGCGGGAGAAACGGCCCCGCCTGCCCGGAACTCAAGATGGCGGTGGGACCCCCCGACTG  
CCCTGTGGGAGGGCCGCTGACCTTCCCTGGCCGGGGTTCTGGGGCTGGGGTCGGGACAACCCTGACCCCCCTCCC  
ACCCCTAAGATGCCCCCCCCACGATCCTGAGCACGGTCCCTCGGCAGATGTTTCAGCGATGCAGGTAGCGGGGA  
CGATGCCTTGGATGGAGACGATGACCTGGTGATCGACATCCC

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**FIGURE 4525**

MRNLGDKSFCGFKCLSTLES GTALSSVRHFCGVTASLLRLGVAGGQTLGATPGPVMNGPADGEVDYKKKYRNLKR  
KLKFLIYEHECFQEELRKAQRKLLKVS RDKSFLLDRLLO YENVDEDSSDSDATASSDNSETEGTPKLS DTPAPKR



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**FIGURE 4526**

CCGAGGTTCCCTCATCTGCTCGCGAGGATGCCTTTTCTCTTCTGCCTTGCGAAATAACAGCAGCCTAGCTGTTGCC  
CGTGACCAGTGAGAAAGGCAGCGTCGCGGGCTGATTAGGTTTCACCCAAAGGGTGCCGGCGCCGAATTGGTTTCT  
AACGAGAAGCTTTTAAATGATCCGTTCCAAAAAGGGTAGGAGCCGCGAGACCTCCAAGTCCCGAGAGAAAACA  
AGTCTCGTCTGGCAAAGTTCTCGGCCACGCGGTCCGCGGCCAAGGGCCAACGGTCCCTCGCCCCACGTTGCCGC  
AGCACTGCGCGTGCGCGAGCCGCTGTCAAACGCGCTGACGGAGGCCGAGAAGAAAAAAGGCGGGAGCCGTCAT  
CCCGGGTTGAGCAAAATGGCGCGGAGAGGAGATGCAGGAGTTACCCGTAGCTTCTTCCGAGGCCGCCCGGAC  
CTCAGCACGCTTACGCATTCCATCGTGCGGCGGAGGTACTTAGCTCACTCGGGCCGAGCCACCTGGAGCCCGAG  
GAGAAGCAGGCACTGAAGCGGCTGGTGGAGGAGGAGCTGCTGAAGATGCAGGTGGATGAAGCCGCTTCCAGGGAA  
GACAACTGGACCTTACCAAGAAGGGCAAGAGGCCTCCACCCCTTGTAGCGACCCGGAGAGAAAAAGGTTCCGC  
TTCAATTCAGAGTCGGAGTCCGGCTCTGAAGCCTCCAGCCCAGACTACTTTGGACCCCCAGCAAAGAATGGGGTG  
GCAGCAGAAGTCAGCCCAGCCAAAGAGGAGAAATCCAAGGCGAGCCTCAAAGGCAGTTGAGGAGAGCAGTGATGAG  
GAACGGCAGAGGGACCTGCCCCACAGAGGGGAGAGGAGAGCAGTGAGGAGGAGGAAAAGGGGTACAAGGGGAAG  
ACTAGGAAGAAACCTGTGGTAAAGAAGCAGGCACCAGGCAAGGCCTCAGTCAGTAGGAAGCAGGCCAGGGAAGAA  
AGTGAGGAGAGCGAGGCAGAACCCGTTGAGAGGACAGCAAAGAAGGTGGAGGGAAATAAAGGAACTAAAAGCCTG  
AAGGAAAGTGAACAGGAGAGTGAAGAGGAGATCCTAGCCCAGAAGAAAGAGCAGAGAGAGGAGGAAAGTGGAGGAG  
GAAGAGAAAGAAGAGGATGAGGAAAAGGGGGATTGGAAACCCAGAACCAGGAGCAATGGCCGGAGAAAGTCAGCT  
AGGGAGGAGAGGAGCTGTAAGCAGAAAAGCCAGGCAAAGAGGCTCTTGGGAGACTCAGACAGCGAGGAAGAGCAG  
AAAGAGGCAGCCAGCAGTGAGGATGACAGTGGGAGAGATAGAGAACCCCAAGTGCAGAGGAAGAGTGAGGACAGG  
ACCCAGCTTAAGGGTGGGAAGAGGTTGAGTGGAAGCAGCGAGGACGAGGAAGACAGTGGGAAGGGGGAACCCACA  
GCTAAAGGCTCTAGAAAGATGGCCAGACTGGGCAGCACCAAGTGGTGAGGAAAGTGACTTGGAGAGGGAGGTAAGT  
GACAGCGAGGCAGGGGGAGGCCCCCAGGGGGAGAGGAAGAACCGCTCTTCCAAGAAGAGCTCCAGGAAAGGCAGG  
ACACGAAGCTCCTCTTCTCCTCAGATGGAAGTCCAGAGGCCAAAGGAGGGAAGGCTGGCTCAGGTCGCCGTGGA  
GAGGACCACCCGGCTGTGATGAGGCTGAAGCGCTACATTCGGGCCTGTGGTGCCCATCGAACTACAAGAAGCTG  
TTGGGCTCCTGTTGCTCACACAAGGAGCGCCTGAGTATCCTCCGGGCAGAACTGGAAGCGCTAGGCATGAAGGGT  
ACCCCTTCCCTAGGGAAGTGTCGGGCCCTGAAGGAGCAGAGGGAGGAGGCAGCTGAGGTGGCCTCCTTGGATGTT  
GCGAACATCATCAGTGGCTCGGGCCGGCCACGCAGACGTACAGCCTGGAACCCCTTTAGGAGAAGCAGCACCCCCA  
GGGAGCTGTACCGACGACCCCTGGACTCAGATGAAGAGCGGCCCCGTCCCGCACCCCCAGACTGGTCACATATG  
CGTGGCATCATCAGCAGTGATGGCGAGAGTAACTGAGCTCTGCCACCCCAAGGAGGGACCTTGATACATGTACA  
AAGCATACATAGACCCCTTGCCCTGTGTCTGTGGAACAGAAGCAGCTTCCTTCAGAGAAGACTGCAGCTCCCAA  
GGACACAAGCTGTTGGGATGCTACTTCTCAGCTTCACGCTGTCCCTTTAAGGTGTTTATTTTTTAAGACTCAATA  
AAGGAGTGTTTTTAATCACCTC

ACGAGGGTCTCACTCTGTCAACCCAGGCTGGAGTGCAGTGGCGCAGTTTATAGCTCACTGCGACCTTGAACCTCTCTGG  
GCTCAAGTGATCCTTCCACCTCAGCCTCCCTAGTAGCTGGGACCACAGGTGGTGACTTCCAAGAGTGACTCCGTC  
GGAGGAAAATGACTCCCCAGTCGCTGCTGCAGACGACACTGTTCTCTGCTGAGTCTGCTCTTCTCTGGTCCAAGGTG  
CCCACGGCAGGGGCCACAGGGAAGACTTTTCGCTTCTGCAGCCAGCGGAACCAGACACACAGGAGCAGCCTCCACT  
ACAAACCCACACCAGACCTGCGCATCTCCATCGAGAACTCCGAAGAGGGCCCTCAGAGTCCATGCCCCCTTTCCCTG  
CAGCCCACCCTGCTTCCCGATCCTTCCCTGACCCCCAGGGGCCCTTACCACCTTCTGCCTCTACTGGAACCGACATG  
CTGGGAGATTACATCTTCTCTATGGCAAGCGTGACTTCTTGCTGAGTGACAAAGCCTCTAGCCTCCTCTGCTTCC  
AGCACCAGGAGGAGAGCCTGGCTCAGGGCCCCCGCTGTTAGCCACTTCTGTCACTCCTGGTGGAGCCCTCAGA  
ACATCAGCCTGCCCAGTGCCGCCAGCTTCACTTCTCCTTCCACAGTCTTCCCCACACGGCCGCTCACAATGCCT  
CGGTGGACATGTGCGAGCTCAAAAAGGGACCTCCAGCTGCTCAGCCAGTTTCTGAAGCATCCCCAGAAGGCCTCAA  
GGAGGCCCTCGGCTGCCCCCGCCAGCCAGCAGTTGCAGAGCCTGGAGTCGAAACTGACCTCTGTGAGATTATGG  
GGGACATGGTGTCTTTCGAGGAGGACCGGATCAACGCCACGGTGTGGAAGCTCCAGCCCACAGCCGGCCCTCCAGG  
ACCTGCACATCCACTCCCGGCAGGAGGAGGAGCAGAGCGAGATCATGGAGTACTCGGTGCTGCTGCCTCGAACAC  
TCTTCCAGAGGACGAAAGGCCGGAGCGGGGAGGCTGAGAAGAGACTCCTCCTGGTGGACTTCAGCAGCCAAGCCC  
TGTTCCAGGACAAGAATTCCAGCCAAGTCTGGGTGAGAAGGTCTTGGGGATTGTGGGTACAGAACACCAAAGTAG  
CCAACCTCACGGAGCCCGTGGTGTCACTTTCAGCACCAGCTACAGCCGAAGAATGTGACTCTGCAATGTGTGT  
TCTGGGTTGAAGACCCCATGTGACAGCCCGGGGCATTGGAGCAGTGCTGGGTGTGAGACCGTCAGGAGAGAAA  
CCCAAACATCCTGCTTCTGCAACCACTTGACCTACTTTGCAGTGCTGATGGTCTCCTCGGTGGAGGTGGACGCCG  
TGCACAAGCACTACCTGAGCCTCCTCTCCTACGTGGGCTGTGTCTCTGCCCCGGCCTGCCTTGTCAACATTG  
CCGCCTACCTCTGCTCCAGGGTGCCCCCTGCCGTGCAGGAGGAAAACCTCGGGACTACACCATCAAGGTGCACATGA  
ACCTGTGCTGCGCCGCTTCTCTGCTGGACACGAGCTTCTGCTCAGCGAGCCGGTGGCCCTGACAGGCTCTGAGG  
CTGGCTGCCGAGCCAGTGCCATCTTCTGCACTTCTCCCTGCTCACCTGCCTTTCTGGATGGGCCTCGAGGGGT  
ACAACCTCTACCGACTCGTGGTGGAGGTCTTTGGCACCTATGTCCCTGGCTACCTACTCAAGCTGAGCGCCATGG  
GCTGGGGCTTCCCCATCTTTCTGGTGACGCTGGTGGCCCTGGTGGATGTGGACAACATATGGCCCCATCATCTTGG  
CTGTGCATAGGACTCCAGAGGGCGTCATCTACCCCTTCCATGTGCTGGATCCGGGACTCCCTGGTCAGCTACATCA  
CCAACCTGGGCCTCTTTCAGCCTGGTGTCTTCTGTTCAACATGGCCATGCTAGCCACCATGGTGGTGCAGATCCTGCG  
GGCTGCGCCCCCACACCCAAAAGTGGTCACATGTGCTGACACTGCTGGGCCTCAGCCTGGTCTTGGCCTGCCCT  
GGGCCTTGATCTTCTTCTCCTTTGCTTCTGGCACCTTCCAGCTTGTGCTCCTCTACCTTTTTCAGCATCATCACT  
CCTTCCAAGGCTTCTCATCTTTCATCTGGTACTGGTCCATGCGGCTGCAGGCCCGGGGTGGCCCCCTCCCTCTGA  
AGAGCAACTCAGACAGCGCCAGGCTCCCCATCAGCTCGGGCAGCACCTCGTCCAGCCGCATCTAGGCCTCCAGCC  
CACCTGCCCATGTGATGAAGCAGAGATTGGCCTCGTGCACACTGCCTGTGGCCCCCGAGCCCGGCCAGCCCC  
AGGCCAGTCAGCCGCAGACTTTGGAAGGCCAACGACCATGGAGAGATGGGCCGTTGCCATGGTGGACGGACTCC  
CGGGCTGGGCTTTTGAATTGGCCTTGGGGACTACTCGGCTCTCACTCAGCTCCCACGGGACTCAGAAGTGCGCCG  
CCATGCTGCCTAGGGTACTGTCCCCACATCTGTCCCAACCCAGCTGGAGGCCTGGTCTCTCCTTACAACCCCTGG  
GCCCAGCCCTCATTGCTGGGGGCCAGGCCTTGATCTTGAGGGTCTGGCACATCCTTAATCCTGTGCCCTGCCT  
GGGACAGAAATGTGGCTCCAGTTGCTCTGTCTCTCGTGGTCAACCTGAGGGCACTCTGCATCCTCTGTCAATTTTA  
ACCTCAGGTGGCACCCAGGGCGAATGGGGCCCAGGGCAGACCTTCAGGGCCAGAGCCCTGGCGGAGGAGAGGCC  
TTTGCCAGGAGCACAGCAGCAGCTCGCCTACCTCTGAGCCC

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**FIGURE 4528**

AGGGCTTCCTGAAGAAATGAGAAGGACAATGCCCTGCTGTCTGCCATCGAAGAGTCCCGGAAGAGGACCTTCGGCA  
**TGGCTGAGGAGTACCATCGGGAGTCAATGTTGGTTGAGTGGGAGCAAGTGAAACAGCGAATTCTGCACACACTGC**  
TGGCATCAGGAGAAGACGCCCTTGACTTTACTCAAGAAAGCGAGCCAAGCTACATCAGTGATGTGGGACCCCTG  
GTCGAAGCTCTCTGGATAACATCGAGATGGCCTATGCGCGGCAAATTTATATCTATAATGAGAAAATTGTAAATG  
GACACCTGCAGCCTAACCTGGTGGACCTTTGTGCTTCCGTGCGAGAGCTCGATGATAAGAGCATTTCGACATGT  
GGACCATGGTAAAACAAATGACAGACGTGTTGTTGACACCGGCAACGGATGCCCTGAAGAACCGCAGCAGCGTGG  
AAGTGCGCATGGAGTTTGTGTCAGGCAGGCCCTTGGCGTACCTTGAGCAGAGTTATAAGAATTACACCCTTGTGACTG  
TCTTTGGAAAATTTGCATCAGGCCCAGCTGGGCGGGGTGCCTGGGACTTACCAATTGGTTTGAAGTTTCCTGAACA  
TTAAACTGCCAGCTCCCTTGCCCTGGACTACAGGATGGAGAGGTGGAAGGCCATCCTGTGTGGGCGCTAATTTACT  
ACTGCATGCGCTGTGGAGACCTGCTTGCCGCTTCACAGGTAGTTAATCGAGCCCAGCACCAGCTGGGAGAGTTTA  
AAACCTGGTTCCAGGAGTACATGAACAGCAAGGACAGAAGATTGTCCCCAGCTACGGAAAACAAGCTCCGGCTGC  
ATTACCGTAGGGCCCTCAGGAACAATACAGATCCCTACAAGCGGGCCGTGTACTGTATCATTGGCAGATGTGACG  
TCACCGACAACCAGAGTGAAGTGGCGGACAAAAGTGAAGGATTACCTGTGGCTGAAGTTGAACCAAGTGTGTTTTG  
ACGACGATGGCACCAGCTCCCCACAAGACAGGCTCACTCTCTCACAGTTCCAGAAGCAGTTGTTGGAAGACTATG  
GCGAGTCCCACTTTACGGTGAACCAGCAACCCTTCCTCTACTTCCAAGTCCTGTTTCTGACAGCGCAGTTTGAAG  
CAGCAGTTGCCTTTCTTTTCCGCATGGAGCGGCTGCGCTGCCATGCTGTCCATGTAGCACTGGTGTGTTTGAGC  
TGAAGCTGCTTTTAAAGTCCTCTGGACAGAGTGCTCAGCTCCTCAGCCACGAGCCTGGTGACCCTCCTTGCTTGC  
GGCGGCTGAACTTCGTGCGGCTCCTCATGCTGTACACCCGGAAGTTTGAGTCCACGGACCCAAGGGAGGCCCTCC  
AGTACTTCTATTTCTCAGGGATGAGAAAGATAGTCAAGGAGAAAACATGTTTCTGCGCTGTGTGAGTGAGCTTG  
TGATTGAAAGCCGAGAGTTCGATATGATTCTTGGGAAACTAGAGAATGACGGAAGTAGAAAGCCTGGAGTCATAG  
ATAAGTTTACTAGTGACACAAAGCCTATTATCAACAAAGTTGCTTCTGTGGCAGAAAATAAAGGACTGTTTGAAG  
AGGCAGCAAAGCTGTATGACCTTGCCAAGAATGCTGACAAGGTACTGGAGCTGATGAACAACTGCTGAGCCCTG  
TCGTCCCCCAGATCAGTGCCCCGCAATCCAACAAGGAGAGGCTGAAGAACATGGCACTCTCCATTGCCGAACGGT  
ATAGGGCTCAAGGAATAAGCGCAAATAAATTTGTGGACTCCACGTTCTATCTTCTTTTGGACTTGATCACCTTTT  
TTGACGAGTATCATAGTGGTCATATTGATAGAGCTTTTGATATCATTGAGCGCTTGAAGCTGGTGCCCCTGAATC  
AGGAAAGTGTGGAAGAGAGAGTGGCTGCCTTCAGAAAATTCAGTGATGAAATCAGGCACAACCTCTCAGAAGTGC  
TTCTTGCCACCATGAACATCTTGTTCACACAGTTTAAAGAGGCTCAAGGGGACAAGTCCATCCTCGTCATCCAGGC  
CCCAGCGAGTCATCGAGGACCGCGACTCTCAACTCCGAAGTCAAGCCCGCACTCTGATTACCTTTGCTGGAATGA  
TACCATACCGAACGTCTGGGGACACCAATGCGAGGCTGGTGCAGATGGAGGTCTCATGAATTAAGTGCCATGCT  
TTGTGGGAGTCTGGGTGCGGCACACTGTGAGTACATCAGGCACATGGGCCCCTAGGCTGGGGTTTCTGGTTTTGT  
TTCIGTTGTGTTTTGTTTTGGTTTTCTGTATTATGTATTTTGTCAACGCCAATAAATTTCTTTGATTTGT

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**FIGURE 4529**

MAEYHRESMLVEWEQVKQRILHTLLASGEDALDFTQESEPSYISDVGPPGRSSLDNIEMAYARQIYIYNEKIVN  
GHLQPNLVDLCASVAELDDKSISDMWTMVQMTDVLLTPATDALKNRSSVEVRMEFVRQALAYLEQSYKNYTLVT  
VFGNLHQAQLGGVPGTYQLVRSFLNIKLPAPLPGLQDGEVEGHPVWALIYYCMRCGDLLAASQVVNRAQHQLGEF  
KTWFQEYMNSKDRRLSPATENKLRLHYRRALRNNTDPYKRAVYCIIGRCDVTDNQSEVADKTEDYLWLKLNQVCF  
DDDGTSPPQDRLTSLSQFQQLLEDYGESHFTVNQQPFLYFQVLFLTAQFEAAVAFLEFRMERLRCHAVHVALVLFE  
LKLLKSSGQSAQLLSHEPGDPPCLRRLNFVRLMLYTRKFESTDPREALQYFYFLRDEKDSQGENMFLRCVSEL  
VIESREFDMILGKLENDGSRKPGVIDKFTSDTKPIINKVASVAENKGLFEEAAKLYDLAKNADKVLELMNKLLSP  
VVPQISAPQSNKERLKNMALSIAERYRAQQISANKFVDSTFYLLLDLITFFDEYHSGHIDRAFDIIERLKLVLPLN  
QESVEERVAAFRNFSDEIRHNLSEVLLATMNILFTQFKRLKGTSPSSSRPQRVIEDRDSQLRSQARTLITFAGM  
IPYRTSGDTNARLVQMEVLMN

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**FIGURE 4530**

GACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAGCGGAGCC  
CCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAGCCCCAACC  
AGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCCCACCTGAGCCGCG  
TCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGTTGTTGGATCACCAATGTC  
TCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAATGTGAAGAGTCCTTCAAAAA  
TGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTTCTAATCGGGGACAGTATCCTGAGG  
ATTCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGAACCTTTCTTCCCCTGGATGGGAAAACATCTCAA  
GGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCTGGGTCTGGTTTCTCCGGTTACACACCCCTATGGGTGGCTTC  
AGCTTTCCTGGTTCCAGCAGATATATGCACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGG  
CTTTTGTTCACCACCAAGTGACAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCCTATTACAAACCAGT  
TTCCAGCTGAAAACCAGCCTGCCAATCAGAAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATT  
TGCGGATGAATGCACAAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCT  
ATTCAGCAGCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCTCATGGTCA  
TGGGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCAGGCGGGTTCAGAACTTCC  
CAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAA  
CTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCCTCCTTTATGAGCA  
CAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCAGCCATCGCAAACTGATGGT  
GTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTAGATTGCCTCTCCTG  
GACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTTGTGAGCAAGCAAAAGCAGAAACG  
TGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTCATGTCTTTATTCTGAAGAGCTTTAATAT  
ATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTT  
CAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTGGA  
TTCTGTTGGAATGTTTAAATTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGC  
AGGACTTTTCTAGGAAAGACTTATGTATAATTGCTTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTT  
TGCGGAGGTGAAAACCTTTGCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAA  
AAAAAAAA

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**FIGURE 4531**

MESETEPEPVTL LVKSPNQ RHRDLELSGDRGWSVGH LKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLRDLLPK  
QEKRHVLHLVCNVKSPSKMPEINAKVAESTE EPAGSNRGQYPEDSSSDGLRQREVLRLNLSSPGWENISRPEAAQQ  
AFQGLGPGFSGYTPYGLQLSWFQQIYARQYYMQYLAATAASGAFVPPPSAQEIPVVSAPAPAPIHNQFPAENQP  
ANQNAAPQVVVNPGANQNLRMNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVM  
YLHHVGWFPFRPRPVQNFNDGPPPDVVNQDPNNNLQEGTDPETEDPNHLPDPRDVL DGEQTSPSFMSTAWLVFK  
TFFASLLPEGPPAIAN

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**FIGURE 4532**

CCCGAGCGGCTGGGAGCGCACGCGAGCGGGCCGTGGCCGCGCGGGCAGCGCCCTGAGCCTGTCCCGCGCCCGCGG  
GCCCCGCCGAGCAGGAGCAGCTCCCGGGGATGCCCCGGGCGGCTCGGAGCGCGGGCAGCGGCAGCCGTGCGGTGAG  
GGCGGTGGCGCCCGCGGGACCTGCGACTGCCAGGAATCCTGCCACCGCCACCGGCTCCCATGGCCACATACCC  
AGTGGGGGTGCCCCAGCAGCGGGGGCAGCCCCCATGGGCCCCCAGTATTGCGTGTGCAAGGTGGAGCTGTCACTG  
AGTGGCCAGAACCTACTGGACCGGGATGTTACCTCCAAGTCCGACCCCTTCTGTGTCTCTTTACAGAGAACAAT  
GGCAGATGGATCGAGTACGACAGGACAGAAACCGCGATCAACAACCTCAACCCCGCCTTCTCCAAGAAGTTCTGTG  
CTTGACTACCACTTCGAGGAGGTACAGAAGCTCAAGTTCGCGCTCTTTGACCAGGACAAGTCCAGTATGCGGCTG  
GACGAGCATGACTTCCTGGGCCAGTTCTCCTGCAGCCTGGGCACGATCGTCTCCAGCAAGAAGATCACTAGGCCT  
CTGCTGCTGCTGAATGACAAGCCTGCGGGGAAGGGCTTGATTACGATCGCTGCCAGGAGCTGTCCGACAACCGC  
GTCATCACACTAAGCCTGGCGGGCAGGAGGTGGACAAGAAGGACCTCTTTGGGAAGTCAGACCCCTTCTGGAG  
TTTTATAAGCCAGGAGACGATGGCAAGTGGATGCTGGTCCACAGGACTGAGGTGATCAAGTACACACTGGACCCT  
GTGTGGAAGCCATTACAGTGCCTTGGTGTCCCTGTGTGATGGGGACATGGAGAAGCCCATCCAGGTCAATGTGC  
TACGACTATGACAATGACGGGGGCCATGACTTCATCGGCGAGTTCAGACCTCAGTGTACAGATGTGTGAGGCT  
CGAGACAGCGTCCCGCTGGAGTTCGAGTGCATCAACCCCAAGAAGCAGAGGAAGAAGAAGAACTATAAAAACTCG  
GGCATCATCATCCTGCGATCCTGCAAGATAAACCGAGACTACTCCTTCCTTGACTACATCCTGGGAGGCTGCCAG  
CTCATGTTACCGTTGGAATAGACTTTACAGCCTCCAACGGGAATCCCCTCGACCCTTCCTCTTTGCACTATATC  
AACCCTATGGGCACCAACGAATATCTGTGCGCCATCTGGGCTGTTGGGCAGATCATTAGGACTACGACAGTGAT  
AAGATGTTTCCAGCTCTGGGATTCGGGGCCAGTTACCCCCAGACTGGAAGGTCTCCCATGAGTTTGCCATCAAC  
TTCAACCCCAACCAACCCCTTCTGCTCAGGTGTGGATGGTATTGCCAGGCGTACTCAGCTTGCTGCCCCACATC  
CGCTTCTACGGTCTTACCAATTTCTCCCCCATCGTCAACCACGTGGCCCGGTTTGCGGGCCAGGCCACACAACAG  
CGGACGGCCACGCAGTACTTCATCCTCCTCATCATCACGGACGGGGTTCATCAGTGACATGGAGGAGACACGGCAT  
GCCGTGGTGCAGGCTTCCAAGCTGCCCATGTCCATCATCATCGTGGGCGTGGGCAATGCGGACTTCGCTGCCATG  
GAGTTCCTGGATGGGGACAGCCGATGCTGCGCTCCCACACGGGGGAGGAGGCAGCCCGCATATTGTGCAGTTC  
GTTCCCTTTGAGAGTTCCGCAACGCAGCAAAAAGAGACCTTGCCCAAAGCTGTGCTGGCGGAGCTGCCCCAACAA  
GTTGTGCAGTATTTCAAGCATAAAAACTGCCCCCAACCAACTCGGAGCCCGCCTGAGCTCCAGTGCCAGCAGC  
AGCATGTGAGCTGAGCCTCCTGCCCTCCCCCAGGAACATGCACGCTCACTCTGCTTCCTTGTGGGTGGCCTTTTT  
TTACCGATCCCCTTTTTTATTTTTTACAACCGGACCTCCACCCCAACTTCCTCCAGCCCAGCTGGGCTTCCTTT  
GTTGGAGTCAACTGTTGATGCTTCCAGGCCAACTGGCTTCCTCTCCTCCTCTCCCCACCTTTGCCATTCTTAAG  
TATTGAATGTACTTTGTATAATTTTAGTGGAATTGTTATTGAGAATAAAATTTTTACAATCAT

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**FIGURE 4533**

MRLDEHDFLGQFSCSLGTIVSSKKITRPLLLLNDKPAGKGLITIAAQELSDNRVITLSLAGRRLDKKDLFGKSDP  
FLEFYKPGDDGKWMLVHRTEVIKYTLDPVWKPFVPLVSLCDGDMEKPIQVMCYDYDNDGGHDFIGEFQTSVSQM  
CEARDSVPLEFECINPKKQRKKKNYKNSGIIILRSCKINRDYSFLDYILGGCQLMFTVGIDFTASNGNPLDPSSL  
HYINPMGTNEYLSAIWAVGQIIQDYDSDKMFPAFGAQLPPDWKVSHEFAINFNPTNPFCSGVDGIAQAYSACL  
PHIRFYGPTNFSPIVNHVARFAAQATQORTATQYFILLIITDGVISDMEETRHAVVQASKLPMSIIIVGVGNADF  
AAMEFLDGD SRMLRSHTGEEAARDIVQFVPFREFRNAKETLAKAVLAELPQQVVQYFKHKNLPPTNSEPA



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**FIGURE 4534**

CGGTGGCGCCGCGCAGTCACCGCGGAGCAGACGCGGAGGCTGGTGGCCCCCTGGGCGAGATGCCGTACGCCAACCA  
GCCTACCGTGCGGATCACGGAGCTCACTGACGAGAATGTCAAGTTCATCATCGAGAACACCGACCTGGCGGTGGC  
CAATTCGATTTCGGAGGGTCTTCATCGCTGAGGTTCCCATAGCCATTGACTGGGTTGAGATTGATGCCAATTC  
CTCAGTTCTTCATGATGAATTCATTGCTCACAGGCTTGGATTAATTCCTTCATTAGTGATGACATTGTGGACAA  
GCTGCAGTACTCTCGGGACTGCACATGTGAGGAGTTCTGCCCCGAGTGCTCGGTGGAGTTCACCCTCGATGTGCG  
GTGCAATGAAGACCAGACGCGACATGTCACGTCTCGAGACCTCATCTCCAACAGCCCCGGGTCAATCCGGTGAC  
ATCCCGGAACCGAGATAATGACCCCAATGACTACGTGGAGCAGGATGACATCCTCATCGTCAAGTTGAGAAAGGG  
CCAGGAGCTGAGACTTCGAGCCTATGCCAAAAGGGCTTTGGCAAGGAGCATGCCAAGTGGAACCTACTGCAGG  
GGTGGCTTTTGAATACGATCCAGACAATGCCCTGAGGCACACAGTGTACCCCAAGCCCGAGGAATGGCCAAAGAG  
TGAGTACTCGGAGCTGGATGAGGATGAGTCGCAGGCTCCCTATGACCCCAACGGCAAGCCAGAAAGGTTTTACTA  
CAATGTGGAGTCTGTGGCTCTCTGCGTCTGAAACCATTGTCTGTGAGCCCTCTCAGGATTGAAGAAGAACT  
GAGTGATTTACAACTCAATTAAGCCACGAGATCCAGAGTGATGTGCTAACCATAAATTAAGTGCAGCTTGCCTG  
CTTCAGCAAAAACGGAGATTGAGGCCAGCAGCTGGATATGGGGGTCTCTCTTCAGACTCTTCTCGTTTCTGAGAA  
TCTAGTCTACTGTTGGTTGAGCTTCTTGGCAGGACATCAGTACCAACTAGAAGTGGGTCATAGATAGATTACCAG  
GGATGCAGTGGTGTTTAGGCAGGATAGGTCTTTACTGGCCCTGACTGCTGTTAATAATTGGCAGCAGTGCTCCCC  
AGATCCCAGAAGGTCCCTGCTGGAGTGTTCAGTGCACCTGTAGGGAACCAACTAGACTTCTCTCCTGGTTAGT  
CCAGCTCTTTACTCTAAACCCTTTCTGTCCAAAATGAGTCATTTTCAGTTGTACCTTAGATGTCTGGTGTGAGG  
ATCAAGTGCCATAGCCTTTATTCAGGGGGCCTATAAACCTTCCAGTTCTTGCCCCAGGGCTGGCCTGCTAGCGC  
TTCAAATTTCCAGGTGTCCCTAATTTGAGAAGTAACCTTTTGAATAGCATTAGACCCTGGCTGTCCCCCTCCCCA  
CCAAATAAACATGATATTTCAATCTCTGTCCAGCAGTCATGAACCCCTTACCTCCAATGACCTGATCATTTAGT  
TTGGTGGGGGTGGGGGTGGGGGTGGGGGTGGAAGCAGCCGAGGAGCAAGGGCCCCCTCCACATACACAGGAGGA  
GTATTTCAATTTCTCCTTAATGAAGGCTCTGGCCCTAACCCCTCAGCACTGTCTCCAGATAGGAACATGCACAAAG  
CAGTTAATTAGGCAGCCTGGAGAAAACCAGAGATCCAGTACAGAAAGGAAAGGATATTTATTGATTAACAGAAGT  
TGTCTTTTTTAAAGTGTTTATTTTGGCAATAAAGAGCACACAT

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**FIGURE 4535**

CCCGGCGCCGCCGCCCTGCCGCCCCGCCAGCCGCGCCGTGACGCGGGCATGAGCCTGCTCCGCGGCGCCGC  
TGAGCAGGCGCTCCTGGCCCCGGGCTCGGCGCCCAGCAGGCGCGGGGCGAAGGAGCTGCTAGAACAAATGCTGAGG  
CGGGTGAGGTGAGGAGCAGCCCCCTCGCGGCAGCCCCGACAGAGTGTCTGGAACAGGTGATTGGAGGAGCCGGAGA  
CCCAGGCACCTGGGCATCCTTCCCCCTCGCCTCTGCCAGGCCCCGCGCCCCCTAAAAGGTGGGAAAACCATGGCGAC  
CAATTTTCAAGTACATCGTCAAGCAAGGCTACGTGAAGATGAAGAGCAGGAAGCTCGGGATCTACCGGAGGTGCTG  
GCTGGTGTTCGGGAAATCCTCCAGCAAGGGGCCCCAGCGGCTGGAGAAGTATCCAGATGAGAAGTCGGTGTGCCT  
CCGGGGCTGCCCCAAGGTGACTGAGATCAGCAACGTCAAGTGTGTTACGCGGCTCCCCAAGGAGACCAAGCGGCA  
GGCGGTGGCCATCATATTTCACTGATGACTCGGCACGTACCTTACCTGCGACTCAGAGCTAGAGGCAGAGGAGTG  
GTACAAGACACTATCTGTGGAGTGTCTGGGGTCCCGCCTCAACGACATCAGTCTGGGAGAACCTGACCTCCTGGC  
CCCAGGGGTGCAAGTGTGAACAGACAGATCGCTTCAATGTCTTCTGCTGCCCTGCCCCAAGTGGACGTGTATGG  
CGAGTGCAAGCTGCAGATCACCCACGAGAATCTACCTCTGGGACATCCACAACCCCCGTGTGAAGCTCGTCTC  
GTGGCCCCCTCTGCTCACTGCGCCGCTATGGCCGGGATGCCACACGCTTTACCTTCGAGGCTGGCCGGATGTGTGA  
TGCTGGGGAAGGACTCTATACCTTCCAGACACAAGAGGGGGAGCAGATTTACCAGCGCGTCCACAGTGCCACCCT  
GGCCATCGCAGAGCAGCACAAGCGGGTCTGCTGGAAATGGAGAAGAAGCTGAGGCTGCTGAACAAGGGCAGCGGA  
ACATTACTCGTATCCCTGCACACCCACGACCATGCTGCCGCGCAGTGCCTACTGGCACCACATCACTGGTTCCCA  
GAACATCGCCGAAGCCTCCAGCTATGCTGGTGAAGGGTATGGGGCAGCCAGGCCAGCTCGGAAAACAGACCTCCT  
CAACAGATTTCATCCTGTCTAAAGCCAAAGCCCAGCCAGGGGGACAGCAGTGAGGCCAAGACCCCATCCCAGTGACC  
ACAGTGTGCGCAGCAGCCGATGACTGCTGGGGGCTGCCTGCTGCGGGGCTGGCTGCAGTGACCGTGGACAGCCT  
CAGGGGGCTGTGCGCCAAGAGCCTGGAGAAAAGGGAGCAAGCTGCCCCCTCCTTGCCCCAAGGATGAGGCTGGAC  
TGAGGCAAGGGCTGGCCACACCACCTGAGCATGTGTGAGGGGTGGAGCTACCGTGGGACTATATACTGTTAAT  
GATTTTAAATATATATGGCTTATGACATACTCTGTATCAATGAGATCCCCTCACCCCTCACCCCATCCTTCCCCACC  
AATACACACAAATTTTTTAAATCCCATGACCAGGCCACGGTCAAGGCTGTTTTTGAAGTATGAGTGCAAGTGTGTCC  
ATCCTCCATGGCACAGCCCTCCTGCTGCCAGGACCTGCTTGAACCTACCAGGGCCACAGGAGGGGGATAATCAGAG  
CTTGAGGCTGGCACTCTGACTGCTGGCTTTTCCCAAACAGCCCAAGGGCCGGAACAGCAGGTGGCTTCTCAGTTC  
CTCTGGGCCTGGAGTGACACAGGAAGGATCTGCACTTCCTCTGTGCTGCTTGCCAGCCTTGCAAGTTGGAGTTTA  
AGCAGAGGTGACATCTGGTTGACGCTCAGGTGAAAATCTGGTTTTTAAATGTAACCTCTGCACAGGCTCCTTCC  
TGCTTTGTAGGCTGGGAAGATGCCCCCTGGGGTAGGGGTGCTGATTACCTCAGCCATGTGGAGGAAGGCTGGAGCT  
TGTTCTGCCCCAGGAATAGGCCAGGAGGGAAAGGCCGACAGGACTGCCGTGGGGAGCACCCCTGCTGCCCCC  
TCTCACTGACCAGGGGTGGACAATGCCCAAGCAGAGGGAGCCCCCTTGCCCTGTTTGGCCACCCCTCTGGCCAGCC  
AAAAGCACTCTGAAACCAAGACCTTCCCATTCCTCCTCCCCACATGGTGCTGAGGCTCCCTGCTGCAATGCAATT  
AAAGCAATTGATTTTTCTAGTGCTGGTATTTGTTGACTACCATGCAGAAGGGCTATCTTTCTATTACGTCAAAC  
TTTGGTTGTGTGGGTTTTTTTTGTTGTTTTTTGGGTTTTGTTTTTAAACTTTAGGGTCTGATTTGTGGGAACA  
GACCTTCTTGTAATAACCACTATTTGAGTTGTGGCAGGAGGATGATAAAGCACGCGGCCCTCCCAAAGGAGCC  
CTTGAGCTAGGGAGGTGGTGCAGTCAGCCTCGCTCTCAACGTGACCCGGGGAATGACCACCCAGAGGGATGAGCT  
AGCCTGTAGAGGGGAAGTGGGGTCCAAAGGTCTTTGGGGAGGGAGGCAGAGCTGGCTGGCTCAGCTAAGTGGCAC  
GATGACGCATGAAGGAGATTATGTTGTGCTCTTTATTGCCAAAAATAAACACTTTTAAAAAGAAAAAAAAAAAA  
AAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4536**

MATNFSDIVKQGYVKMKSRKLGIIYRRCWLVFRKSSSKGPQRLEKYPDEKSVCLRGCPKVTEISNVKCVTRLPKET  
KRQAVAIIFTDDSAFTFTCDSELEAEWYKTLSECLGSRLNDISLGEPDLLAPGVQCEQTDRFNVFLLPCPNLD  
VYGECKLQITHENIYLWDIHNPRVKLVSWPLCSLRRYGRDATRFTFEAGRMCDAGEGLYTFQTQEGEQIYQRVHS  
ATLAIAEQHKRVLLEMEKNVRLLNKGTEHYSYPCTPTTMLPR SAYWHHITGSQNIAEASSYAGEGYGAAQASSET  
DLLNRFILLKPKPSQGDSSEAKTPSQ

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**FIGURE 4537**

ATTTTGTGGGTGGGGCTTCAGGTGCCAGCCAGCTGAAGGATGGCCACCCCTGTGGTCACCAAGACAGCCTGGAAG  
TTGCAAGAGATCGTCGCGCATGCCAGCAACGTGTCCTCACTGGTGCTGGGCAAAGCCTCCGGGCGGGCTGCTGGCT  
ACAGGCGGGGATGACTGCCGCGTCAACCTGTGGTCCATCAACAAGCCCAACTGCATCATGAGCCTGACGGGGCCAC  
ACATCCCCAGTGGAGAGCGTCCGCTCAACACCCCCGAGGAGCTCATCGTGGCCGGCTCTCAGTCGGGGCTCCATC  
CGTGTCTGGGACCTGGAAGCTGCCAAAATTCTTCGCACACTCATGGGACACAAAGCCAAACATCTGCAGCCTGGAT  
TTCCACCCGTACGGCGAGTTTGTAGCCTCTGGTTCCCAGGACACAAACATCAAGCTCTGGGACATCAGGAGGAAA  
GGCTGTGTCTTCCGATACAGGGGGCACAGCCAGGCCGTGCGGTGTCTCCGGTTTCAGCCCCGATGGGAAGTGGTTG  
GCGTCGGCCGCAGATGACCACACCGTGAAGCTCTGGGATCTCACTGCCGGCAAGATGATGTCTGAGTTCCCTGGT  
CACACGGGGCCTGTCAACGTGGTTCGAGTTTACCCCCAACGAGTACCTCCTGGCCTCCGGCAGCTCTGACAGGACA  
ATCCGCTTCTGGGACCTGGAGAAGTTCCAGGTGGTGTAGCTGCATCGAAGGGGAGCCTGGGCCCCGTACAGGAGCGTC  
CTCTTCAACCCAGACGGCTGCTGCCTGTACAGCGGCTGCCAGGACTCACTGCGTGTCTACGGCTGGGAACCTGAG  
CGGTGCTTTGATGTGGTCTCTCGTCAACTGGGGCAAGGTGGCCGACCTGGCCATCTGCAATGACCAGTTGATAGGT  
GTGGCCTTCTCCCAGAGCAACGTCTCCTCCTACGTGGTGGATCTGACGCGTGTACACGAGTGGCACGGTGGCC  
CGGGACCTGTGCAGGACCACCGGCCCCCTGGCACAGCCACTGCCCAACCCAGCGCCCCCTCCGGCGCATCTAT  
GAGCGGGCCAGCACAACTGCAGCAAGCCTCAGAGGGTGAAGCAGAACTCAGAGAGCGAGCGCCGAGCCCCAGC  
AGCGAGGATGACCGGGACGAGCGCGAGTCCCGCGCGGAGATCCAGAACGCCGAGGACTACAACGAGATCTTCCAG  
CCCAAGAACAGCATCAGTCGGACGCCACCCCGGAGAAGTGAGCCCTTCCCTGCACCCCCAGAGGACGACGCAGCC  
ACAGCAAAGGAGGCAGCAAAGCCAGCCCTGCCATGGATGTGCAGTTCCCGGTGCCAAATCTGGAGGTCTTGCCC  
CGGCCCCCAGTGGTTGCTTCCACACCTGCACCCAAGGCTGAGCCTGCCATCATCCCTGCCACCCGGAACGAGCCC  
ATCGGGCTGAAGGCCTCCGACTTCTGCCCCGCGTGAAGATCCCCCAGCAGGCCGAGCTGGTGGACGAGGATGCC  
ATGTACAGATCCGCAAAGGCCACGACACCATGTGTGTGGTGTCTACCAGCCGCCACAAGAACCTGGACACTGTG  
CGGGCTGTGTGGACCATGGGCGACATCAAGACGTGCGTGGACTCCGCTGTGGCCATCAACGACCTGTGCGTGGTG  
GTGGACCTCCTGAACATCGTCAACCAGAAAGCCTCCCTGTGGAAGCTGGACCTGTGCACCACCGTCCTGCCACAG  
ATTGAGAAGCTTCTGCAGAGCAAGTATGAGAGCTACGTCCAGACGGGCTGCACCTCCCTGAAGCTGATCCTGCAG  
CGGTTTCTGCCCCCTCATCACAGACATGCTGGCGGCCCCACCCCTCTGTGGGTGTGGATATCAGCAGGGAGGAGAGG  
CTGCATAAGTGCCGGCTCTGCTACAAGCAGCTTAAGAGCATCAGCGGCCTGGTCAAGAGCAAGTCAGGCCTGAGC  
GGCCGCCATGGCAGTACCTTCCGCGAGCTGCACCTGCTCATGGCCAGTCTGGACTGAGGAAAGCAGTGGGCAGGG  
GCGCTCGGCAGCCCACAGGGCCTGGCCTCAGCCCCCACTCCTGTTCTTGTGCACCCACTGGCCCATGAGCCTCT  
GCCTGGCCCCCTGCTGCTGTCTGTGGCCGTCTTGAGGAGGTGATGCTGGTCCCTGGCCACCTCTACAGCCCTGA  
ACTCTTGAGACAACTCTCTCCAGCAATAGCTGCCAGCTTTGCCCAACTGTTGCTTCTTGGGGCAGCGAACTGAG  
CCCTGGGGCTGCTGCTGTAATTTATAAGGCAAATTTTATTAAATTTGTAACCTATT

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**FIGURE 4538**

GAGGGCGCTTCCGGCACAGCGGAACTCCGGGTGCCGGTTGAGGTTGCTGGTGGACCTGCTCTGGTGGTCTTGGAT  
GAGGCCCCATGAGCGCGGCGCCCTGGTGGGCTACAGCAGCAGCGGCTCCGAGGATGAGTCCGAGGACGGGATGC  
GGACCAGGCCGGGGGATGGGAGCCACCGTCGTGGCCAGAGCCCCCTTCCCAGGCAGAGATTCCAGTACCTGACA  
GTGTGCTGAACATGTTCCCGGGCACCGAGGAGGGGCTGAAGATGACAGCACAAAACACGGGGGACGGGTGCGCA  
CCTTCCCCACGAGCGAGGCAACTGGGCCACCCACGTCATGTACCATATGAAGCCAAGGAGGAGTTCCCTGGATC  
TGCTTGATGTGTTGCTGCCCCATGCCAGACATATGTCGCCCGGCTGGTAAGGATGAAGGTGTTCCACCTCAGCC  
TGTCCCAGAGTGTGGTTCTGCGCCACCACTGGATCCTCCCCTTCGTGCAGGCTCTGAAAGCCCGTATGACCTCCT  
TCCACAGATTCTTCTTTACTGCCAACCAGGTAAAGATTTACACCAATCAAGAGAAAACAGGACCTTTATTGGGC  
TTGAGGTCACTTCAGGGCATGCCAGTTCCCTGGACCTGGTTTCAGAGGTGGACAGAGTCATGGAGGAATTC AAC  
TCACCACTTTCTACCAAGATCCTTCTTTCCACCTCAGCCTGGCCTGGTGTGTGGGTGATGCACGTCTCCAGCTGG  
AGGGGCAGTGCTGCAGGAACTACAGGCAATCGTGGATGGGTTTGAAGATGCTGAGGTGCTGCTGCGCGTGCACA  
CTGAGCAAGTCCGCTGCAAGTCTGGGAACAAGTTCTTCTCGATGCCTTTGAAGTGAGCACCAGAGGCCTTCCCTC  
TCCAGGGCCCTCTGCAGACCAGGCTGAGATGGAGGAACCTGCTAAATCGATGGAGATGCTTCTAGCCTCCCAGT  
AGGAGGCCCCAGCCATGCCCTCAACCTGGCAGGAGGTGTAGCCACTCCTCATCCTCCCTGAGTGCTGATATTCTC  
TCTCTCTCTTTCTCTTCTCTTCTTTCTCTCTCTTCTCTCTCTTTCTCTCCTCTGGCTCTCTTCTCTCCTCTC  
TTCTCTCTTTCTCTCTTCT  
TCTATCTCTCCTCTCTCTTACTCTCCTCTCTCTAACCCTCCTGGCTTTCCCTTGCCCTCCTCTCTCTTCTCTCT  
ATCTCTCTTCT  
CCCCCTCTATCTCTTCT  
TCGGCTGTTGTGGGTGTCAGGTTGGGTGCTGCTGTTGTGGTCTTCCCAGAACTGCCAGTAGAGGGCAGCCTGG  
GCATCCTAATGCTTACTCTGGTTGTTACACAAAGAAAATATTGGGGTCACTGGCGAGCCACCCACACTCACCAG  
AATCTCCACTGTAGTCCCCCTAACAAACAGCCCTTCACTTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT  
TTGGCCTCAGATCAGAGTGTTTTAAATCATCACGCCCTGGCTTATCCCTGGTCGAGCCAGGACACGGGGTGCTTC  
AGTGGGTCTGTACCCCTCTCTCCTTGAAGCATGTTGCTTTTATTTATTTACTTTTACTCTCACCCTGCTCCTGTA  
CCAGCAGGGGCCACTTCAAAGCCAAGGTACAGGGTGATAACTTGTGGTCCAGCATCAGTTTTCTCCACTTCTTTC  
TCCACTCACCCCCAGCAAGGTGCCCTGGGGAGACTTGAGCAGATGTTTCATTTGGCCTGGCCAGTGGCTGAAAG  
CCAGGCCTCCAATGCACTGTGACCTCTGGCTTCCCCAGCAGCTTTCCCAGAGAGGCAGAGGGGCCTTCCACAGCC  
CGGGTTCTCCTGCTGCCTCCTGCCCTGCTGCAGCTGCAGGCATTCTGAGGGGCAACGTGGAGGAAGGGCCAGGGAT  
GCATGGGATTTTAAATTGTTTCATCACACCTTCCCCGTGGCAAAGAAACAGTCAGTCCTCTTCAGGTGTCTTCTG  
ATTTCTGGTGATGGACAGAGAAATCTTTTTACAGTTTCAAATTATGTTCAACAAATAAAAATTGCATTTTTT

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**FIGURE 4539**

CCGCTTCCCCGTCTTGTACACCCCTAACTCCTGAGGCTCCTCCGAATCACGCGAGTGGAAGCGGAGAAGCTCAAG  
TGGCCGCCATGTCAGAGGCTTATTTCCGAGTGGAGTCGGGTGCGCTGGGGCCTGAGGAGAACTTTCTTTCTTTGG  
ACGACATCCTGATGTCCACGAGAAGCTGCCGGTGCGCACGGAGACCGCCATGCCTCGCCTTGCGCTTTCTTCC  
TGGAGCGGAGCGCAGGCGCCGAGACTGACAACGCGGTCCCACAGGGTTCCAAGCTTGAACCTACCCTTGTGGCTGG  
CAAAAGGACTTTTTGACAACAAGCGACGGATCCTTTCTGTGGAACCCCCAAGATCTACCAAGAGGGTTGGAGGA  
CTGTGTTTCACTGCAGATCCCCAATGTGGTGGACCTCCACAAAATGGGGCCCCATTTCTACGGGTTTGGCTCCCAGC  
TCCTGCATTTTGACAGTCCCGAGAATGCAGACATTTCCAGTCTCTGCTGCAGACTTTTATCGGACGTTTTTCGCC  
GCATCATGGACTCCTCACAGAAATGCTTACAACGAAGACACTTCAGCCCTGGTAGCCAGGCTAGACGAGATGGAGA  
GGGGCTTATTTCAAACAGGGCAGAAAGGACTGAATGACTTTTCAGTGTGGGAGAAAGGGCAGGCTTCTCAGATCA  
CAGCTTCCAACCTCGTTTCAGAATTACAAGAAGAGAAAATTCAGTATATGGAAGACTTGAAAGCCGGAAGAACA  
GAATGGCTCCTCACAGACGTATCCCTCCGTGTGTCCTTGATAGGAGCTGGTTGACCTTGTACAGAACCAAGATCC  
TGTCCCATTTTATGCTTATTTCCGTGTGGCCATAGAGAATTATAGGGAACCTGGACATGCTGGAGGATGTGGGTGT  
CCCTGGCTCTGTGAGTCTTCCAGGACCGTCCCACCCTGCTGACCCACAGCCAGGCCCTTTAACCCAAGAACCCA  
TGGCCAAGGAGAAATCAAAGTCCTTCCATAATAAGAATCACTGCCATATAATATATCACAGTAGAGTTGCAACTG  
AGATTCTTGTGTCTGGGAGTTTGGACAGCTTCAGATGTACAGTTTCACTAGCCACAAAGCACAGGTACAACTG  
GGTCATCGCCTGTTACAAAATGCTCTCTTGATCTTATTTGCCTCATCTTCTCATGGTTGTACAGAGGATAGCA  
CCCCACCATGCCAGCCTGACTTGGAGATATCTCCTGCTGCCTGCCTGCAGGGAGTTACCCAGTTTCCAAAACA  
GTCGCCCAGATAAAGGAGGAAAAGGGAAAGGCAGACGAATGGCATGGCTTTTACTAAAGAAAAGATGTTGGCCTC  
ATACTCTATACTCAGGGCTTAATGAACTGGAATCTGCATAACTCAGCAGTCAACCCAGAAGGGAAATGGTTAAAC  
TGAGCTTGTTATTGCCTCGGAGAGCCTAAGAGCACCCGCACACTTAATTCTACTCCCTGTCTAGAAAAGCTGTCA  
GGGAGTCGTTTGAATTGCAATGTAGTTATTAAGGGCTGTTAACCAGCCTGCATTACATCTGGAAGTCAGGACTT  
GGGTGCTGACTATGAAGGGCCCTGTTTTCAAATCTAACATTGCAAGTGTAATGGGCAAGAAGCCTCCGTTGTG  
CTTTTTTTTTCTCTTTCAGTAACTTTTGCAACATTATTGCATAGAAGATCCCTGACCATTTACTAGGAACCTGGT  
TAAGCAAGCACTAATCTCTTTTCTGGAGATCAAGGATGCAACCTCAGGTTGAGAAAGAAACAGGGTTCCCTGGG  
CCCATTAGACTGTTTGCAGGGCATCACTGCTTCCCCCTGACACCTCACAACTAGCAAAAATTGTCTTTGTCTTTG  
GAAATTATAGAGGGATTTGGGTATCCAGATTGTGCAGATGCAAACTTAGGCTGTCTTGATGCAAACTTAGAACCA  
CAGAAATGCTTTTAAATGCCTGTTTTAAGATGGAATTGTTGTTTTTATAATTTGATTTTAGTGCTAAATAAATG  
ATTGGCTTTGTACATGAATATGTTCTGTACAAGTGCTCTTTCAGTAGTACTACAGATAATCAAAGCTATCAGAA  
TGTGCTTTGATCATATTTGACGGTAATACACAAATAAATCCATGTTTTAGCAAAAAAAAAAAAAAAAAAAAAA

A

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**FIGURE 4540**

MSEAYFRVESGALGPEENFLSLDDILMSHEKLPVRTETAMPRLGAFFLERSAGAETDNAVPOGSKLELPLWLAKG  
LFDNKRRILSVELPKIYQEGWRTVFSADPNVVDLHKMGPHFYGFSGQLLHFDSPENADISQSLLQTFIGRFRRIM  
DSSQNAYNEDTSALVARLDEMERGLFQTGQKGLNDFQCWEKGQASQITASNLVQNYKKRKFTDMED

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**FIGURE 4541**

GGTCCACCAATGGCCCTGCTGCACTCCGGCCGCGTCCTCCCCGGGATCGCCGCCGCCTTCCACCCGGGCCTCGCCG  
CCGCGGCCCTCTGCCAGAGCCAGCTCCTGGTGGACCCATGTGGAAATGGGACCTCCAGATCCCATTCTGGGAGTCA  
CTGAAGCCTTTAAGAGGGACACCAATAGCAAAAAGATGAATCTGGGAGTTGGTGCCTACCGGGATGATAATGGAA  
AGCCTTACGTTCTGCCTAGCGTCCGCAAGGCAGAGGCCAGATTGCCGCAAAAAATTTGGACAAGGAATACCTGC  
CCATTGGGGGACTGGCTGAATTTTGCAAGGCATCTGCAGAACTAGCCCTGGGTGAGAACAGCGAAGTCTTGAAGA  
GTGGCCGGTTTGTCACTGTGCAGACCATTTCTGGAAGTGGAGCCTTAAGGATCGGAGCCAGTTTTCTGCAAAGAT  
TTTTTAAGTTCAGCCGAGATGTCTTTCTGCCCAAACCAACCTGGGGAAACACACACCCCATCTTCAGGGATGCTG  
GCATGCAGCTACAAGGTTATCGGTATTATGACCCCAAGACTTGCGGTTTTGACTTCACAGGCGCTGTGGAGGATA  
TTTCAAAAATACCAGAGCAGAGTGTTCTTCTTCTGCATGCCTGCGCCCACAATCCACAGGGAGTGGACCCGCGTC  
CGGAACAGTGGAAGGAAATAGCAACAGTGGTGAAGAAAAGGAATCTCTTTGCGTTCTTTGACATGGCCTACCAAG  
GCTTTGCCAGTGGTGATGGTGATAAGGATGCCTGGGCTGTGCGCCACTTCATCGAACAGGGCATTAAATGTTTGCC  
TCTGCCAATCATATGCCAAGAACATGGGCTTATATGGTGAGCGTGTAGGAGCCTTCACTATGGTCTGCAAAGATG  
CGGATGAAGCCAAAAGGGTAGAGTCACAGTTGAAGATCTTGATCCGTCCTCATGTATTCCAACCTCCCCTCAATG  
GGGCCCCGATTGCTGCTGCCATTCTGAACACCCAGATTTGCGAAAACAATGGCTGCAAGAAGTGAAAGTCATGG  
CTGACCGCATCATTGGCATGCGGACTCAACTGGTCTCCAACCTCAAGAAGGAGGGTTCCACCCACAATTGGCAAC  
ACATCACCGACCAAATTTGGCATGTTCTGTTTTACAGGGCTAAAGCCTGAACAGGTGGAGCGGCTGATCAAGGAGT  
TCTCCATCTACATGACAAAAGATGGCCGCATCTCTGTGGCAGGGGTCACCTCCAGCAACGTGGGCTACCTTGCCC  
ATGCCATTACCAGGTCACCAAGTAATGTCCCTGGTGCGAGGAAACAGAGACAACCTTTCTGTCTTCAGCCTCTG  
CTATTGAGAGCTTCACACAGACAATGAGAGAGGGTGGATGGTGGTGAAGTGGATCATTCTTTTCAGCCACAGTGTG  
TAACACTCAGCATTGGAATGTTTCTCAGAAAAGAACATGTAGTGACACAGGGCAGAGGCATCCATGGCTGGCGTC  
TGGAATATTAAACCAAACCTCTCCCCGGTCTTTTTTTCTCCAACCTTTCTCAAAGAGTTTACATGTGCAAGAAAGT  
CATCGCACCAAAAAACCTGTCAATTATGCCATTGCAATATTTTCAAGAGCTTTAACTGAAGTGTGAGGTTCTCTCGT  
GAGAAACAGCACACGTTAGAGGCTTTGAGAGAAGGCCTAGTTCTGTGATGAGTAGTCGGCCTCGTGTCTGTCTCTC  
CCATCTTGGAACAACCTTATCAACAGGCCGCACTGCAGAAATGATGTTTTATGAAAACCAATGAGGCTGCTGCCA  
CTCCAGCAAGGGAAATAATGCAGTTTCCTGTCTTATTTAAGAAAAAGAGAAGGCTCTCTTTTCTCCCTTGTCATT  
GCCGTTCTTTTCTTACACGCAAAGATTTTTTAACTATTGCAGATTTTCATCCATTCTACTGCTTGATTGACCA  
TCAACTCCATCCTATCGAGATTTATTTAAGAATGAAGAACATAATTTTCTGCTGATGCTGTACCCCTCACCTTTT  
CAGCAAAGAATAGTGGAGAGTAGGAACTGTACTTTATCTCGGCATCCTCTTGAATGATAGTGCAAGTTTCTCCA  
GTTGGGATGTTGTCTCTGCCCGGTTGGACCTCCTCCCTTTGTTGAATGTGGTGTGCAGCCTCTCATCTCACACTG  
TGAGTCCAGCGGCGCAGGGTGGTACCAGGAAAGAGGATAATTCTAGGCTTTGCGTGCTGCTAGCTGGGTTTCAAGCT  
TCACCCACTGGAAAGAACCACCATCTGCTCTAACCATGTAGACTTATTGCGGCCTGGTTTCTCTGTTACAATAAA  
ATTACTGTAGACCC



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**FIGURE 4542**

MALLHSGRVLPGIAAAFHPGLAAAASARASSWWTHVEMGPPDPILGVTEAFKRD TNSKKMNLGVGAYRDDNGKPY  
VLPSVRKAEAQIAAKNLDKEYLP IGGLAEFCKASAELALGENSEVLKSGRFVTVQTISGTGALRIGASFLQRFFK  
FSRDVFLPKPTWGNHTPIFRDAGMQLQGYRYYPKTCGFDFGTGAVEDISKIPEQSVLLLHACAHNPTGVDP RPEQ  
WKEIATVVKKRNLF AFFDMAYQGFASGDGDKDAWAVRHFIEQGINVCLCQSYAKNMGLYGERVGAF TMVCKDADE  
AKRVESQLKILIRPMYSNPPLNGARIAAAILNTPDLRKQWLQEVKVMADRIIGMRTQLVSNLKKEGSTHNWQHIT  
DQIGMFCFTGLKPEQVERLIKEFSIYMTKDGRISVAGVTSSNVGYLAHAHQVTK

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**FIGURE 4543**

ATCTGCAGTGGAGCCGCCACCAAAATGCAGATTTTCGTGAAAACCCCTTACGGGGAAGACCATCACCCCTCGAGGTT  
GAACCCCTCGGATACGATAGAAAATGTAAAGGCCAAGATCCAGGGTAAGGAAGGAATTCCTCCTGATCAGCAGAGA  
CTGATCTTTGCTGGCAAGCAGCTGGAAGATGGACGTACTTTGTCTGACTACAATATTCAAAAAGGAGTCTACTCTT  
CATCTTGTGTTGAGACTTCTGGTGGTGCTAAGAAAAGGAAGAAGAAGTCTTACACCACTCCCAAGAAGAATAAGC  
ACAAGAGAAAGAAGGTTAAGCTGGCTGTCCTGAAATACTATAAGGTGGATGAGAATGGCTTTATGGCAAGCCACT  
TTGACAGACATTATTGTGGCAAATGTTGTCTGACTTACTGCTTCAACAAACCAGAAGACAAGTAACTGTATGAGT  
TAATAAA

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**FIGURE 4544**

ATGGCGGACCTTGATTGCGCTCCGAAGCTGTCAGGGGTGCAGCAGCCGTCTGAGGGGGTGGGAGGTGGCCGCTGC  
TCCGAAATCTCCGCTGAGCTCATTGCTCCCTGACAGAGCTGCAGGAGCTGGAGGCTGTATACGAACGGCTCTGC  
GGCGAGGAGAAAGTGGTGGAGAGAGAGCTGGATGCTCTTTTGGAACAGCAAAACACCATTGAAAGTAAGATGGTC  
ACTCTCCACCGAATGGGTCCTAATCTGCAGCTGATTGAGGGAGATGCAAAGCAGCTGGCTGGAAATGATCACCTTT  
ACCTGCAACCTGGCTGAGAATGTGTCCAGCAAAGTTCGTCAGCTTGACCTGGCCAAGAACCGCCTCTATCAGGCC  
ATTCAGAGAGCTGATGACATCTTGGACCTGAAGTTCTGCATGGATGGAGTTCAGACTGCTTTGAGGAGTGAAGAT  
TATGAGCAGGCTGCAGCACATACTCATCGCTACTTGTGCTGGACAAGTCGGTCATTGAGCTCAGCCGACAGGGC  
AAAGAGGGGAGCATGATTGATGCCAACCTGAAATTGCTGCAGGAAGCTGAGCAACGTCTCAAAGCCATTGTGGCA  
GAGAAGTTTGCCATTGCCACCAAGGAAGGTGATCTGCCCCAGGTGGAGCGCTTCTTCAAGATCTTCCCACTGCTG  
GGTTTGCATGAGGAGGGATTAAAGAAAGTTCTCGGAGTACCTTTGCAAGCAGGTGGCCAGTAAAGCTGAGGAGAAT  
CTGCTCATGGTGTGTTGGGACAGACATGAGTGATCGGAGAGCTGCAGTCATCTTTGCAGATACACTTACTCTTCTG  
TTTGAAGGGATTGCCCGCATTGTGGAGACCCACCAGCCAATAGTGGAGACCTATTATGGGCCAGGGAGACTCTAT  
ACCCTGATCAAATATCTGCAGGTGGAATGTGACAGACAGGTGGAGAAGGTGGTAGACAAGTTCATCAAGCAAAGG  
GACTACCACCAGCAGTTCCGGCATGTTTCAAGAACACCTGATGAGAAATTCTACAACAGAAAAAATCGAACCAAGA  
GAACTGGACCCCATCCTGACTGAGGTACCCCTGATGAATGCCCGCAGTGAGCTATACTTACGCTTCCTCAAGAAG  
AGGATTAGCTCTGATTTTGGAGGTGGGAGACTCCATGGCCTCAGAGGAAGTAAAGCAAGAGCACCAGAAGTGTCTG  
GACAAACTCCTCAATAACTGCCTTTTGGAGCTGTACCATGCAGGAGCTAATTGGCTTATATGTTACCATGGAGGAG  
TACTTCATGAGGGAGACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGGCCAGCTGACATCCAGCATG  
GTGGATGATGTCTTCTACATTGTTAAGAAAGTGCAATTGGGCGGGCTCTGTCCAGCTCCAGCATTGACTGTCTCTGT  
GCCATGATCAACCTCGCCACCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGATGGGC  
TTTCCTGCCACCACCTTCCAGGACATCCAGCGCGGGGTGACAAGTGCCGTGAACATCATGCACAGCAGCCTCCAG  
CAAGGCAAATTTGACACAAAAGGCATCGAGAGTACTGACGAGGCGAAGATGTCCTTCTGGGACATATTCTGAGT  
CACCTGAGCCACGATAGAGGCTGGGCTGTCCAGCTGTCACCTAGAATTCATTCCCCAGAGCACTGGCCAGCTGCT  
CAGGAGCCCCACTGAGTGCCAAGCTTGGCTTGCACTGTCCACAGAACCAGCTCTACCATCTGTGCCAGACCACCAG  
ACTGCTTCTCTGAGGAGAGGGCCCGCAGCATGGGCGAGCGCCAGTCCTTCGGGCCTGCCATCACTGCTCTGCTAGT  
ACATGTCTTAGGCTTTCAACTTCCTCTGGAAAGGAGGCTTTATTAAAGCCCTTTGCTACCCAGAATGACAGATGT  
GATAAAGCAGCAAGCCTTCCATTGTGTGACAGCTTGAAAGGAGGAGCACAGAAGGATGA

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**FIGURE 4545**

GGCACGAGGCAGCGTCAGCTGACCTGGGGAGTCGCGATTTCGTGCCGGCCGGTCCCTGGTTCTCCGGTCCCGCCGCT  
CCCGCAGCAGCCATGTCGTTCTTCCCGAGCTTTACTTTAACGTGGACAATGGCTACTTGGAGGGACTGGTGCGC  
GGCCTGAAGGCCGGGGTGCTCAGCCAGGCCGACTACCTCAACCTGGTGCAGTGCGAGACGCTAGAGGACTTGAAA  
CTGCATCTGCAGAGCACTGATTATGGTAACTTCCTGGCCAACGAGGCATCACCTCTGACGGTGTCAGTCATCGAT  
GACCGGCTCAAGGAGAAGATGGTGGTGGAGTTCCGCCACATGAGGAACCATGCCTATGAGCCACTCGCCAGCTTC  
CTAGACTTCATTACTTACAGTTACATGATCGACAACGTGATCCTGCTCATCACAGGCACGCTGCACCAGCGCTCC  
ATCGCTGAGCTCGTGCCCAAGTGCCACCCACTAGGCAGCTTCGAGCAGATGGAGGCCGTGAACATTGCTCAGACA  
CCTGCTGAGCTCTACAATGCCATTCTGGTGGACACGCCTCTTGCGGCTTTTTTCCAGGACTGCATTTTCAGAGCAG  
GACCTTGACGAGATGAACATCGAGATCATCCGCAACACCCTCTACAAGGCCTACCTGGAGTCCTTCTACAAGTTC  
TGCACCCTACTGGGCGGGACTACGGCTGATGCCATGTGCCCCATCCTGGAGTTTGAAGCAGACCGCCGCGCCTTC  
ATCATCACCATCAATTCTTTTCGGCACAGAGCTGTCCAAAGAGGACCGTGCCAAGCTCTTTCCACACTGTGGGCGG  
CTCTACCCTGAGGGCCTGGCGCAGCTGGCTCGGGCTGACGACTATGAACAGGTCAAGAACGTGGCCGATTACTAC  
CCGGAGTACAAGCTGCTCTTCGAGGGTGACGCTAGCAACCCTGGAGACAAGACGCTGGAGGACCGATTCTTTGAG  
CACGAGGTAAAGCTGAACAAGTTGGCCTTCCTGAACCAGTTCCACTTTGGTGTCTTCTATGCCTTCGTGAAGCTC  
AAGGAGCAGGAGTGTGCAACATCGTGTGGATCGCTGAATGTATCGCCAGCGCCACCGCGCCAAAATCGACAAC  
TACATCCCTATCTTCTTAGCGTCCTGGCCCCAAGGCTCTCAATTGCACTCTTTGTGTGTGTGTGTGTGTGTGCGC  
GTGTGTGTGCGTGTGTGTGTATGTGGTCTGTGACAAGCCTGTGGCTCACCTGCCTGTCCGGGGTGTAGTACGCTG  
TCCTAGCGGCTGCCCAGTTCTCCTGACCTCTTAGAGACTGTTCTTAGGCCTGAAAAGGGGCTGGGCACCCCCC  
CCACCAAGGATGGACGAAGACCCCTCCAGAGCAAGGAGGCCCTCAGCCCTGTGGTTACAGCCGCTGATGTAT  
CTAAGAAGCATGTCACTTTTCATGTTCTCCCTAACTCCCTGACCTGAGAACCCTGGGGCCTGGGGGCAGTTTGAG  
CCTCCTCTCCCTTCTGTGGGTGCTCCAGAGCCATGGCCCATGGGAAGGACAGAGTGTGTGTGTCTTGGGGCC  
TGGGGGGATGTTGCTCCTCAGCTCCCTCCCTCAGCCCTGCCCTCTGAGACAATAAACTGCCCTCTCTAAGGCA  
AAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4546**

MSFFPELYFNVDNGYLEGLVRGLKAGVLSQADYLNLVQCETLEDLKLHLQSTDYGNFLANEASPLTVSVIDDRK  
EKMVVEFRHMRNHAYEPLASFDFITYSYMIDNVILLITGTLHQRSIAELVPKCHPLGSFEQMEAVNIAQTPAEL  
YNAILVDTPLA AFFQDCISEQDLDEM NIEIIRNTLYKAYLESFYKFCTLLGGTTADAMCPILEFEADRRAFIITI  
NSFGTELSKEDRAKLFPHCGRLYPEGLAQLARADDYEQVKNVADYYPEYKLLFEGAGSNPGDKTLED RFFEHEVK  
LNKLAFLNQFHFGVFYAFVKLKEQECRNIVWIAECIAQRHRAKIDNYIP IF

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**FIGURE 4547**

CGCGCCCCAGGCCGGTGTACCCCCGCACTCCGCGCCCCGGCCTAGAAGCTCTCTCTCCCCGCTCCCCGGCCCCGGC  
CCCCGCCCCGCCCCGCCCCAGCCCGCTGGGCGGCCATGGAGCGCTGGCCTTGGCCGTCGGGCGGCGCCTGGCTGC  
TCGTGGCTGCCCGCGCGCTGCTGCAGCTGCTGCGCTCAGACCTGCGTCTGGGCGCGCCGCTGCTGGCGGCGCTGG  
CGCTGCTGGCCGCGCTCGACTGGCTGTGCCAGCGCCTGCTGCCCCGCGCGGCCGCACTCGCCGTGCTGGCCGCCG  
CCGGCTGGATCGCGTTGTCCCGCCTGGCGCGCCCCGAGCGCCTGCCGGTGGCCACTCGCGCGGTGCTCATCACCG  
GCTGTGACTCTGGTTTTGGCAAGGAGACGGCCAAGAACTGGACTCCATGGGCTTCACGGTGCTGGCCACCGTAT  
TGGAGTTGAACAGCCCCGGTGCCATCGAGCTGCGTACCTGCTGCTCCCCTCGCCTAAGGCTGCTGCAGATGGACC  
TGACCAAACCAGGAGACATTAGCCGCTTGCTAGAGTTACCAAGGCCACACCACCAGCACCGGCCTGTGGGGCC  
TCGTCAACAACGCAGGCCACAATGAAGTAGTTGCTGATGCGGAGCTGTCTCCAGTGGCCACTTTCCGTAGCTGCA  
TGGAGGTGAATTTCTTTGGCGCGCTCGAGCTGACCAAGGGCCTCCTGCCCCCTGCTGCGCAGCTCAAGGGGCCGCA  
TCGTGACTGTGGGGAGCCCAGCGGGGGACATGCCATATCCGTGCTTGGGGGCCTATGGAACCTCCAAAGCGGCCG  
TGGCGCTACTCATGGACACATTCAGCTGTGAACCTCTTCCCTGGGGGGTCAAGGTCAGCATCATCCAGCCTGGCT  
GCTTCAAGACAGAGTCAGTGAGAAACGTGGGTGAGTGGGAAAAGCGCAAGCAATTGCTGCTGGCCAACTGCCTC  
AAGAGCTGCTGCAGGCCTACGGCAAGGACTACATCGAGCACTTGATGGGCAGTTCCCTGCACTCGCTACGCCTGG  
CCATGTCCGACCTCACCCCAGTTGTAGATGCCATCACAGATGCGCTGCTGGCAGCTCGGCCCCGCGCCGCTATT  
ACCCCGGCCAGGGCCTGGGGCTCATGTACTTCATCCACTACTACCTGCCTGAAGGCCTGCGGCGCCGCTTCCTGC  
AGGCCTTCTTCATCAGTCACTGTCTGCCTCGAGCACTGCAGCCTGGCCAGCCTGGCACTACCCACCACAGGACG  
CAGCCCAGGACCCAAACCTGAGCCCCGGCCCTTCCCCAGCAGTGGCTCGGTGAGCCATGTGCACCTATGGCCCAG  
CCACTGCAGCACAGGAGGCTCCGTGAGCCTTGTTTCTCCCCGAAAACCCCCAGCATTACGATCCCCCAAGTGTC  
CTGGACCCTGGCCTAAAGAATCCCACCCCCACTTCATGCCCCTGCGGATGCCCAATCCAGGCCCGGTGAGGCCA  
AGGTTTCCAGTGAGCCTCTGCGCCTCTCCACTGTTTTCATGAGCCCAAACACCCTCCTGGCACAACGCTCTACCC  
TGCAGCTTGGAGAACTCCGCTGGATGGGAGTCTCATGCAAGACTTCACTGCAGCCTTTCACAGGACTCTGCAGAT  
AGTGCCTCTGCAAACTAAGGAGTGACTAGGTGGGTGGGGACCCCTCAGGATTGTTTCTCGGCACCAGTGCCTC  
AGTGCTGCAATTGAGGGCTAAATCCCAAGTGTCTCTTGAAGTGGCTCAAGAATTAGGGCCCCAACTACACACCCCC  
AAGCCACAGGGAAGCATGTACTGTACTTCCCAATTGCCACATTTTAAATAAAGACAAATTTTATTCTTCTA

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**FIGURE 4548**

MERWPWPSSGAWLLVAARALLQLLRSDLRLGRPLLAALALLAALDWLCQRLPPPAALAVLAAAGWIALSRLARP  
QRLPVATRAVLITGCDSGFGKETAKKLD SMGFTVLATVLELNSPGAIELRTCCSPRLRLLQMDLTKPGDISRLLE  
FTKAHTTSTGLWGLVNNAGHNEVVADAELSPVATFRSCMEVNFFGALELTKGLLPLLRSSRGRIVTVGSPAGDMP  
YPCLGAYGTSKAAVALLMDTFSCELLPWGVKVSIIQPGCFKTESVRNVGQWEKRKQLLLANLPQELLQAYGKDYI  
EHLHGQFLHSLRLAMSDLTPVVDAITDALLAARPRRRYYPGQGLGLMYFIHYLPEGLRRRFLQAFFISHCLPRA  
LQPGQPGTTPPDAAQDPNLSPGPSPAVAR

**FIGURE 4549A**

AGTGGCGCTCGGAAGCTGCAAAGACACCTGTGAGCTTGCGGAAAGTCAGTTTCAGACTCCAGCCCGCTCCAGCCCGGCC  
GACCCGACCGCACC CGCGCCTGCCCTCGCTCGGCGTCCCCGGCCAGCCATGGGGCCCTTGGAGCCGCAGCCTCTC  
GGCGCTGCTGCTGCTGCTGCAGGTCTCCTCTTGGCTCTGCCAGGAGCCGCGCTCCTGGGCAGAGTGAATTTTGAAGA  
CGAGAGCTACACGTTACGGTGCCCGCGGCCACCTGGAGAGAGGCGCGCTCCTGGGCAGAGTGAATTTTGAAGA  
TTGCACCGGTGCGACAAAGGACAGCCTATTTTTCCCTCGACACCCGATTCAAAGTGGGCACAGATGGTGTGATTAC  
AGTCAAAAGGCCTCTACGGTTTCATAACCCACAGATCCATTTCTTGGTCTACGCCTGGGACTCCACCTACAGAAA  
GTTTTCCACCAAAGTACGCTGAATACAGTGGGGACCACCACC GCCCCCCCGCCCCATCAGGCCTCCGTTTCTGG  
AATCCAAGCAGAATTGCTCACATTTCCCAACTCCTCTCCTGGCCTCAGAAGACAGAAGAGAGACTGGGTATTTC  
TCCATCAGCTGCCCAGAAAAATGAAAAAGGCCCATTTTCTTAAACCTGGTTTCAGATCAAATCCAACAAAGACAA  
AGAAGGCAAGGTTTTCTACAGCATCACTGGCCAAGGAGCTGACACACCCCTGTTGGTGTCTTTATTATTGAAAAG  
AGAAACAGGATGGCTGAAGGTGACAGAGCCTCTGGATAGAGAACGCATTGCCACATACACTCTTCTCTCACGC  
TGTGTCTATCCAACGGGAATGCAGTTGAGGATCCAATGGAGATTTTGATCACGGTAACCGATCAGAATGACAACAA  
GCCCCAATTACCCAGGAGGTCTTTAAGGGGTCTGTCTATGGAAGGTGCTCTTCCAGGAACCTCTGTGATGGAGGT  
CACAGCCACAGACGCGGACGATGATGTGAACACCTACAATGCCGCCATCGCTTACACCATCCTCAGCCAAGATCC  
TGAGCTCCCTGACAAAAATATGTTTACCATTAAACAGGAACACAGGAGTCATCAGTGTGGTCACCACTGGGCTGGA  
CCGAGAGAGTTTTCCCTACGTATACCTTGGTGGTTCAAGCTGCTGACCTTCAAGGTGAGGGGTTAAGCACAACAGC  
AACAGCTGTGATCACAGTCACTGACACCAACGATAATCCTCCGATCTTCAATCCCACCACGTACAAGGGTCAGGT  
GCCTGAGAACGAGGCTAACGTCGTAATCACCACTGAAAGTGACTGATGCTGATGCCCCAATACCCAGCGTG  
GGAGGCTGTATACACCATATTGAATGATGATGGTGGACAATTTGTCTGTCACCACAAATCCAGTGAACAACGATGG  
CATTTTGAAGAACAGCAAAGGGCTTGGATTTTGAGGCCAAGCAGCAGTACATTCTACACGTAGCAGTGACGAATGT  
GGTACCTTTTGGAGTCTCTCTCACCACTCCACAGCCACCGTCACCGTGGATGTGCTGGATGTGAATGAAGCCCC  
CATCTTTGTGCCTCCTGAAAAGAGAGTGGAAGTGTCCGAGGACTTTGGCGTGGGCCAGGAAATCACATCCTACAC  
TGCCCAGGAGCCAGACACATTTATGGAACAGAAAAATAACATATCGGATTTGGAGAGACACTGCCAACTGGCTGGA  
GATTAATCCGGACACTGGTGCCATTTCCACTCGGGCTGAGCTGGACAGGGAGGATTTTGGAGCAGTGAAGAACAG  
CACGTACACAGCCCTAATCATAGCTACAGACAATGGTTCTCCAGTTGCTACTGGAACAGGGACACTTCTGCTGAT  
CCTGTCTGATGTGAATGACAACGCCCCCATACCAGAACCCTCGAACTATATTCTTCTGTGAGAGGAATCCAAAGCC  
TCAGGTCATAAACATCATTGATGCAGACCTTCTTCCCAATACATCTCCCTTACAGCAGAACTAACACACGGGGC  
GAGTGCCAACTGGACCATTTCAGTACAACGACCCAAACCAAGAACTATCATTTTGAAGCCAAAGATGGCCTTAGA  
GGTGGGTGACTACAAAATCAATCTCAAGCTCATGGATAACCAGAATAAAGACCAAGTGACCACCTTAGAGGTCAG  
CGTGTGTGACTGTGAAGGGGCCCGCGCGCTCTGTAGGAAGGCACAGCCTGTGCAAGCAGGATTGCAAATTCCTGC  
CATTTCTGGGGATTCTTGGAGGAATTCTTGCTTTGCTAATTCTGATTCTGCTGCTCTTGCTGTTTTCTTCGGAGGAG  
AGCGGTGGTCAAAGAGCCCTTACTGCCCCAGAGGATGACACCCGGGACAACGTTTATTACTATGATGAAGAAGG  
AGGCGGAGAAGAGGACCAGGACTTTGACTTGAGCCAGCTGCACAGGGGCTTGGACGCTCGGCCTGAAGTGACTCG  
TAACGACGTTGCACCAACCCTCATGAGTGTCCCCCGGTATCTTCCCCGCCCTGCCAATCCCGATGAAATTGGAAA  
TTTTATTGATGAAAATCTGAAAGCGGCTGATACTGACCCACAGCCCCGCCTTATGATTCTCTGCTCGTGTGTTGA  
CTATGAAGGAAGCGGTTCCGAAGCTGCTAGTCTGAGCTCCCTGAACTCCTCAGAGTCAGACAAAGACCAGGACTA  
TGACTACTTTGAACGAATGGGGCAATCGCTTCAAGAAGCTGGCTGACATGTACGGAGGCGGCGAGGACGACTTAGG  
GACTCGAGAGAGGCGGGCCCCAGACCCATGTGCTGGGAAATGCAGAAATCACGTTGCTGGTGGTTTTTTCAGCTCC  
CTTCCCTTGAGATGAGTTTCTGGGGAAAAAAGAGACTGGTTAGTGATGCAGTTAGTATAGCTTTATACTCTCT  
CCACTTTATAGCTCTAATAAGTTTGTGTTAGAAAAGTTTCGACTTATTTCTTAAAGCTTTTTTTTTTTTTTCCCATC  
ACTCTTTACATGGTGGTGATGTCCAAAAGATACCCAAATTTTAATATTCCAGAAGAACAACTTTAGCATCAGAAG  
GTTACCCAGCACCTTGAGATTTTCTTAAAGGAATTTTGTCTCACTTTTAAAAAGAAGGGGAGAAGTCAGCTACT  
CTAGTTCTGTTGTTTTGTGTATATAATTTTTTAAAAAAAATTTGTGTGCTTCTGCTCATTACTACACTGGTGTGT  
CCCTCTGCCTTTTTTTTTTTTTTAAAGACAGGGTCTCATTCTATCGGCCAGGCTGGAGTGACGTGGTGCATCAC  
AGCTCACTGCAGCCTTGCTCTCCAGGCTCAAGCTATCCTTGCACCTCAGCCTCCCAAGTAGCTGGGACCACAGG  
CATGCACCACTACGCATGACTAATTTTTTAAATATTTGAGACGGGGTCTCCCTGTGTTACCCAGGCTGGTCTCAA  
ACTCCTGGGCTCAAGTGATCCTCCCATCTTGGCCTCCAGAGTATTGGGATTACAGACATGAGCCACTGCACCTG  
CCCAGCTCCCCAACTCCCTGCCATTTTTTAAAGAGACAGTTTCGCTCCATCGCCAGGCTGGGATGCAGTGATGT



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**FIGURE 4549B**

GATCATAGCTCACTGTAACCTCAAACCTCTGGGGCTCAAGCAGTTCTCCCACCAGCCTCCTTTTTATTTTTTTTGTA  
CAGATGGGGTCTTGCTATGTTGCCCAAGCTGGTCTTAACTCCTGGCCTCAAGCAATCCTTCTGCCTTGGCCCC  
CAAAGTGCTGGGATTGTGGGCATGAGCTGCTGTGCCCAGCCTCCATGTTTAAATATCAACTCTCACTCCTGAATT  
CAGTTGCTTTGCCCAAGATAGGAGTTCTCTGATGCAGAAATTATTGGGCTCTTTTAGGGTAAGAAGTTTGTGTCT  
TTGTCTGGCCACATCTTGACTAGGTATTGTCTACTCTGAAGACCTTTAATGGCTTCCCTCTTTCATCTCCTGAGT  
ATGTAACTTGCAATGGGCAGCTATCCAGTGACTTGTTCTGAGTAAGTGTGTTTCATTAATGTTTATTTAGCTCTGA  
AGCAAGAGTGATATACTCCAGGACTTAGAATAGTGCCTAAAGTGCTGCAGCCAAAGACAGAGCGGAACCTATGAAA  
AGTGGGCTTGGAGATGGCAGGAGAGCTTGTCATTGAGCCTGGCAATTTAGCAAACCTGATGCTGAGGATGATTGAG  
GTGGGTCTACCTCATCTCTGAAAATTCTGGAAGGAATGGAGGAGTCTCAACATGTGTTTCTGACACAAGATCCGT  
GGTTTGTA CTCAAAGCCCAGAAATCCCCAAGTGCTGCTTTTGATGATGTCTACAGAAAATGCTGGCTGAGCTGAA  
CACATTTGCCCAATTCCAGGTGTGCACAGAAAACCGAGAATATTCAAAATTCCAAATTTTTTCTTAGGAGCAAGA  
AGAAAATGTGGCCCTAAAGGGGGTTAGTTGAGGGGTAGGGGGTAGTGAGGATCTTGATTGGATCTCTTTTTATT  
TAAATGTGAATTTCAACTTTTGACAATCAAAGAAAAGACTTTTGTTGAAATAGCTTTACTGTTTCTCAAGTGTTT  
TGGAGAAAAAATCAACCCTGCAATCATTGTTGGAATTGTCTTGATTTTTCGGCAGTTCAAGCTATATCGAATA  
TAGTCTGTGTAGAGAATGTCAGTGTAGTTTTGAGTGTATACATGTGTGGGTGCTGATAATTGTGTATTTTCTTT  
GGGGGTGGAAGGAAAACAATTCAAGCTGAGAAAAGTATTCTCAAAGATGCATTTTATAAATTTTATTAAACA  
ATTTTGTTAAACCATAAAAAAAAAAAAAA

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**FIGURE 4550**

MGPWSRSLSALLLLLQVSSWLCQEPEPCHPGFDAESYTF TVPRHLEGRVLGRVNFEDCTGRQRTAYFSLDTRF  
KVGTDGVITVKRPLRFHNPQIHFLVYAWDSTYRKFKSTKVTLNTVGHHRP PPHQASVSGIQAE LLTFPNSSPGLR  
RQKRDWVIPPI SCPENEGPFPKNLVQIKSNKDEGKV FYSITGQGADTPPVGVFI IERETGWLKVTEPLDRERI  
ATYTLF SHA VSSNGNAVEDPMEILITVTDQNDNKPEFTQEVFKGSVMEGALPGTSVMEVTATDADDDVNTYNAAI  
AYTILSQDPELPDKNMFTINRNTGVISVVTGLDRESFPTYTLVVQAADLQGEGLSTTATAVITVTDNDNPPIF  
NPTTYKGQVPENEANVVITTLKVTADAPNTPAWEAVYTI LNDGQGQFVVTTNPNVNDGILKTAKGLDFEAKQQY  
ILHVAVTNVVPFEVSLTTSTATVTVDVLDVNEAPIFVPPEKRVEVSEDFGVGQEITSYTAQEPDTFMEQKITYRI  
WRDTANWLEINPDTGAISTRAELDREDFEHVKNSTYTA LI IATDNGSPVATGTGTL LLLILSDVNDNAPIPEPRTI  
FFCERNPKPQVINIIDADLPNTSPFTAELTHGASANWTIQYNDPTQESIILKPKMALEVGDYKINLKLMDNQNK  
DQVTTLEVSVCDCEGAAGVCRKAQFVEAGLQIPAILGILGGILALLIL LLLLLLFLRRRAVVKEPLLPEDDTRD  
NVYYYDEEGGGEEDQDFDLSQLHRGLDARPEVTRNDVAP TLMSPRYLPRPANPDEIGNFIDENLKAADTDPTAP  
PYDSLLVFDYEGSGSEAASLSSLNSSES D KDQDYDYLNEWGNRFKKLADMYGGGEDD

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**FIGURE 4551**

AGTGCTCGCGGCGGCGGCGACGGCGGCGGGAGGTTGCGTTGTGCCCCGTTGGCCGCGGCGGCGCGCTCGGCGG  
CCGCCATTGCAGGGAATCCCTGTGCTGATCGTGGGGCATCATATCCTGTATGGGAAAATCATCCACCTGGAGAAA  
CCTTTTGCAGTCCTTGTCAAACACACTCCTGGGGATCAGGACTGTGATGAGCTTGGCCGCGAGACTGGCACCCGG  
TACCTGGTGACAGCACTCATCAAAGACAAGATCCTTTTCAAAACCCGCCCAAGCCCATTATCACCAGCGTCCCC  
AAGAAAGTATGAAAGAACCTCGGATTTTCCCTAGAGAGCGGCCAACTCCTTGGA~~CT~~CGTGCTCCGCTGCCACCTC  
GAGGACGGCTCGACGGTTCCCTGGGACCACAGGGGGGTCTGTCTGAACACAGGCCACCCACTGGGTGTGAAC  
CGGATCCCTTCCCTTATGGCGGCGGGTCTCTTGGTGGAATCTGACCCCATTTCCAAGGAACCCATCTCCTTTTC  
CAGCTTCATCAGGCTCATTGGCTTCAAATCCAGCACCTTTCCCGGCTGGTGCTCGTGACCCAAGTATGGCTTCTT  
TTCCAAGAGGGATGAATCCCACCTGGCACAGGTGCAGTTTCTTTCCCAAGGCCTGGTGGCCTCTTGGGGCCAGGCC  
CAGGCCCAGGCCCCACCCCTAAACCCCTAGGACAGGGGCTCTGCCAGGCCCAGGGCCTCTGTCTAACCCCAAGTTAG  
GGGGTCTCCCAGGACCAGGTCTATGTCCAACCCAAGGGCAGGTGGTCTCCTGGGAGCAGGTCTTGACCCAGAG  
GTGGTGGTCCCATGGGCCCTGGATCTGGACCTAACCTGAGAGCCGGTGTCTGTAAACCTCTGGGAATGGTCCTC  
CCAATCCTAGGCCAGTTGGCCTGGGCCCAGGACCAAACCCCAATCTGAGATCAGGCTTTTTAGGGACAAACCCCTG  
CCCCAGGTGAGGTGTGTTTCCAGGCCCAGGCCTTGGGCCCAACCCAAGACCAAGTGGCCTGGGCCCAGGCCCTA  
ATCTAGATGCCAGAGCAGGTGGCCTCTTGGGCACAGGATCTGGTCTTAACCTTAAGAATGGCTGGACCTCAAGGCC  
TCGATCTTGCCCCATTCTAAGAGCAGCAGGTCTTTTAGGAGCAAATTCAGCTTCTTTCTCACAGGCTTCTGGAA  
ACATGGGCACAAGCCCATCTCCATGGCAAGAGTACCTGGCCCCATGGGCCCA~~AA~~CTCGGGTCTTAGCTCTCGGG  
GAATTGGCCTTCCAGGGCCAAATCCATCTCCATGTCAAGGGCTCCTGGCCCCATAGGCCCTAATTCAGCTCATT  
TCTCAAGGCCAGTTGGCCCCATGGGGGTAAATGCCAATCCCTTTCCAGGGGAGCAGGTTTCTGCTTTTCTC  
AGTCTTCTGGCACATTGGCATCAAACCCAGCTACCTTCCAAAGGTCCGCTGGCCTCCAGGGCTCAAATCCAACCA  
TTTTCCCAAGAGCCTCTGGGCCACTTGGCCCCAACCCAGCTAACTTCCCAAGGGCCACTGGCCTGCAGGGTCCAA  
GTCCAACCTACCTTCCCAAGGTCTACTGGCCCATTAGGCCCTGGTCAAGTTACTTTCCCCAGGCCAGCTGCCGGGC  
ATCTGGGCCCTTCTCCAGCTGGCCCTGTGGGTATCAACCCAGCTCCTTTCACAAGGCCAACTGGGACCCTGGGT  
TCAACCCAGCTTCTTTTCCAAGGATGAATGGCCCTGCAGGCAAGAGTTTCGTCCCATTTCTTAGAGTGGGGAGCC  
TCCCTGGGCACAAACCCAGCTGCTTTCCCGAGACCAGGGGGTCCAATGGCTGCAATGTACCCAAATGGAATGTTGC  
CCCCTTAAACACCATTTTCCCTCCAGGACCACCTTGGTTTCTAGGCACTGTGGTTCTTGGCAGGGGCTGTCTTAG  
GTAAAAGGGTAGTTGTGGAGCTACAGTCTGAAGAACATAGCTTGGGCTCAAGTTCAAATGAGCCATCTTTTTCT  
TTGCGTTTTTCTTGAAGGTGAGATGTTATTTGTGGCATGTGAACGTGGCAGGTGGGAATAATCCTGCCCT  
TGAGAGAAAGGATCTCCAGCCTCCCAGAAGCCTGCTGTGCTTTTCGTCCACAGCTTTCTGCCCATTTGTTTCTTAC  
TAGTTTCTTGAATTGTTCTTGTGGACTTTTCTCAGGGATACATTGGCCTGCAGGTCCAGTTTCAATGTAGTCC  
CCTGCTCACCATTGGAGAATCAGCTCACTGCTCTCTAGAAACGTGGCGTTGGTGAACGGACCATGCTTCCGTAGC  
TCTGACCTGGGCAGCTTGGACCTGGTCATCTCTACTGCCATACCTTTCCCTGGGGGCTTGAACACAGAACAGGG  
AGATGGACAACCACTTCAAAGAAAGACCCACCGAATGCAGTTTCTGCTTGACTGACTGGGCCTGCAGCTCCCTTC  
TCCTGGGACTTAGAGGTGGCCAGATTTAAGGCCCTCTACTCATCCAACCTCCCTCTTCACTGGTACTCCCAATCA  
ATCAAAGAACCTCAAATTTAAACTGATGTGGATGGGAATATGGGAATTAGGGTGGGGGTGGGGATGAAGGGAA  
GAAATCAGTGTGCTTTGTTTCGGCCTGGTGTGCAAGGATGGTTGGTGGTTTTCTGCATTGTATCTTTTCTTACTG  
TTTCTTTAATAAATGGGATGAGAGGGC

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**FIGURE 4552**

MKEPRIFPRERPTPWTRAPLPPRGRLDGS LGPQGGPVLNTGHPLGVNSDFFLMAAGSLGGNLTPFPRNPSPFPAS  
SGSLASNPAPFPAGARDPSMASFPRGMNPTGTGAVSFPRPGLLGPGPGPPTLNPRGTGALPGPGPLSNPRLGGL  
PGPGPMSNPRAGLLGAGPDPRGGGPMGPGSGPNLRAGVLLTSGNGPPNPRPVGLGPGPNPNLRSGFLGTNPAPR  
SGVFPGLGPNPRPSGLGPGPNLDARAGLLGTGSGLNLRMAGPQGLDLAPILRAAGLLGANSASFSSQASGNMG  
TSPSSMARVPGPMGPNSGPPSSRGIGLPGPNPSPMSRAPGPIGPNSAHFSRPVGPMGVNANPFPRGAGSSAFSSQSS  
GTLASNPATFQRSAGLQGSNPTIFPRASGPLGNPANFPRATGLQGPSPTTFPRSTGPLGPGQVTFPRPAAGHLG  
PSPAGPVGINPAPFTRPTGTLGLNPASFPRMNGPAGKSFVPFPRVGSIPGTNPAAFFPRGGPMAAMYPNGMLPP

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**FIGURE 4553**

CTCAGTTAGCGGTGGAGAGGCAGTATGTCCGGTTCA**ATG**GCGACTGCGGAAGCTAGCGGCAGCGATGGGAAAGGG  
CAGGAAGTCGAGACCTCAGTCACCTATTACCGGTTGGAGGAGGTGGCAAAGCGCAACTCCTTGAAGGAACTGTGG  
CTTGTGATCCATGGGCGAGTCTACGATGTCACCCGCTTCCTCAACGAGCACCCCTGGAGGAGAAGAGGTTCTGCTG  
GAACAAGCTGGTGTAGATGCAAGTGAAAGCTTTGAAGATGTAGGACACTCTTCTGATGCCAGAGAAATGCTAAAG  
CAGTACTACATTGGTGATATCCATCCGAGTGACCTTAAACCTGAAAGTGGTAGCAAGGACCCCTTCAAAAAATGAT  
ACATGCAAAAGTTGCTGGGCATATTGGATTTTACCCATCATAGGCGCTGTTCTCTTAGGTTTCCTGTACCGCTAC  
TACACATCGGAAAGCAAATCCTCCT**AGAG**GAGGCCTTGCTGAAGTTAGAAAGTGCATCCACTTTGGGGCGAAAAC  
AGAGACTTGCTTGGGGGCTGCAGAAGTGCCCTCTCCTCGAATCCTGCCAGTTGCATTCTTCCCCCTTGGAGCCAA  
GACGATTGGCCAGACATCACCTCAGATCTGAGACCAGCGTCTTCCATCTCTCAGAGCCTTACTCCCAAAGTACCT  
GCTCACTGTTCCGTGTTGAACAATTGCCGGTGTTTCCTCTCTTCACTGGTTTCCATGAGTACCCTTATATTTTAC  
AACTTTCTGTTTATAAGTTATAGTGACATTGCTCTTTGGTAAAAATGCCTGCTTTCCAATACTTTGATTGCATAT  
TAGACATTCTTAACAGGGCGGCAGTCTAGTGTTGAAAGTTTTATTTTTCCATTTTTCTTTAAGTAAATTTTTTT  
TAAAAAATTTCTGATTTAGGGCTAGGTGTGGTGGCTCAGGCCTGTAATCCTGGCACTTTGGGAGGCCAAGGTGGGA  
ACATCGCTTGAGGCCAAGAGTTCAAGACCAGCCTGGGCAACATAGCGAGACCCCTATCTGTATTAAAAAAAATC  
TGATTTAATTTCTTTTATTTATCATAAGGGGTTTAATTCCTGAAGTAAAGGTTTGACCTATTAAACTTAAACTG  
CCAAATGATTTTTGTTCTTTTATGTGCGTGATAAAAATACAAAGAATGGTGTGGCCACCTCCTCCCTTTCAAGCT  
AGGGCAGCAGGTAGCTCTTCCCAGCCCCTGAGCCAGCCCCTTCCCAAGTGGTGCCGGACAAAAAACTACATGGC  
CCTTTTCGTGCTTGGGGGTGGAAGGGAGGGATGAATTGGGGTGATAGAACCCTGGTGAATTCAGAGTAATCTTT  
CTTTAGAAAAGTGGTGTCTTCTAAAGAAACAGGATAGGAGTTTAGAGAAGGCACCAAAGCTTTCACTTTGGTTT  
GCACCAAGTTTCTAACCATCTGTTTTTCTACCCTAGCTATCTTTTATTGGTAAAAATATAAATGTATAATTATGTT  
TGTAGAGCTTTACCAAGGAGTTTCCCTCCTTTTTTTGTTTGTGATTAGCAAATTTTTGATTCTCCATTTTCCAA  
AAGTAAGAGACTCCAGCATGGCCTTCTGTTTGGCCCGCAGTAAAGTAACTTCCATATAAAATGGTATTTGAAAGT  
GAGAGTTTATGACAACAGACCGTTTCCATTTTCTGTATTTTATCTCCGTGACTCCAACCTTGTTGGGTTTGTTC  
TGTTTTTCCATGAGAATAAAATACTGGCGGTTTTTTTTTCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  
AAAAAAAAA

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**FIGURE 4554**

MATAEASGSDGKGQEVETSVTYRLEEVAKRNSLKEWLVIHGRVYDVTRFLNEHPGGEEVLLEQAGVDASESFE  
DVGHSSDAREMLKQYYIGDIHPSDLKPESGSKDP SKNDTCKSCWAYWILPIIGAVLLGFLYRYTSESKSS

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**FIGURE 4555**

CACACACCCCTACAATCCCCTCCCCAGCCCCGAGAGACTTTTCTTGACTTCCACCAGTTGCTCCGGCGGGTGAG  
AGTGGAGAGGCCCCCTCCTTCATCCCCCAGGCTCCCTCCCTTCCTGGAGCTGCAGCCTCAGCATCCTCCGCCCAGC  
ACCCCAGGATTCAGGCGTTGGGTCCCGCCCTTGTAGGCTGTCCACCTCAAACGGGCCGGACAGGATATATAAGAG  
AGAATGCACCGTGCACTACACACGCGACTCCCACAAGGTTGCAGCCGGAGCCGCCAGCTCACCGAGAGCCTAGT  
TCCGGCCAGGGTCGCCCCGGCAACCACGAGCCCAGCCAATCAGCGCCCCGGACTGCACCAGAGCCATGGTCGGCA  
GAAGAGCACTGATCGTACTGGCTCACTCAGAGAGGACGTCCTTCAACTATGCCATGAAGGAGGCTGCTGCAGCGG  
CTTTGAAGAAGAAAGGATGGGAGGTGGTGGAGTCGGACCTCTATGCCATGAACCTCAATCCCATCATTTCAGAA  
AGGACATCACAGGTAAACTGAAGGACCCTGCGAACTTTCAGTATCCTGCCGAGTCTGTTCTGGCTTATAAAGAAG  
GCCATCTGAGCCCAGATATTGTGGCTGAACAAAAGAAGCTGGAAGCCGCAGACCTTGTGATATTCCAGAGTAAGA  
AGGCAGTGCTTTCCATCACCCTGGTGGCAGTGGCTCCATGTACTCTCTGCAAGGGATCCACGGGGACATGAATG  
TCATTCTCTGGCCAAATTCAGAGTGGCATTCTGCATTTCTGTGGCTTCCAAGTCTTAGAACCTCAACTGACATATA  
GCATTGGGCACACTCCAGCAGACGCCCCGAATTCAAATCCTGGAAGGATGGAAGAAACGCCTGGAGAATATTTGGG  
ATGAGACACCACTGTATTTTGCTCCAAGCAGCCTCTTTGACCTAAACTTCCAGGCAGGATTCTTAATGAAAAAAG  
AGGTACAGGATGAGGAGAAAAACAAGAAATTTGGCCTTTCTGTGGGCCATCACTTGGGCAAGTCCATCCCAACTG  
ACAACCAGATCAAAGCTAGAAAATGAGATTCCTTAGCCTGGATTTCTTCTAACATGTTATCAAATCTGGGTATC  
TTTCCAGGCTTCCCTGACTTGCTTTAGTTTTTAAGATTTGTGTTTTTCTTTTTCCACAAGGAATAAATGAGAGGG  
AATCGACTGTATTTCGTGCATTTTTGGATCATTTTTTAACTGATTCTTATGATTACTATCATGGCATATAACCAAAA  
TCCGACTGGGCTCAAGAGGCCACTTAGGGAAAGATGTAGAAAGATGCTAGAAAAATGTTCTTTAAAGGCATCTAC  
ACAATTTAATTCCTCTTTTTAGGGCTAAAAGTTTTAGGGTACAGTTTGGCTAGGTATCATTCAACTCTCCAATGTT  
CTATTAATCACCTCTCTGTAGTTTATGGCAGAAGGGAATTGCTCAGAGAAGGAAAAGACTGAATCTACCTGCCCT  
AAGGGACTTAACTTGTTTGGTAGTTAGCCATCTAATGCTTGTTTATGATATTTCTTGCTTTCAATTACAAAGCAG  
TTACTAATATGCCTAGCACAAGTACCCTCTTGCTCAGCTTTTGTGTTTATATACAGTACACAGATACCTTGAA  
AGGAAGAGCTAATAAATCTCTTTCTTTGCTGCAGTCATCTACTTTTTTTTTTAATTAAAAAAATTTTTTTTTGAAG  
CAGTCTTGCTCTGTTACCCAGGCTGGAGTGCAGTGGTGTGATCTCGGCTCACTGCAACCTCTGCCTCCCAGGTTT  
CAGCAATTCTCCTGCCTCAGCCTCCCTAGTAGCTGGGATGACAGGCGCCTGCCATCATGCCTGACTAATTTTTGT  
ATTTTTAGTAGAGACGGCGTTTCACCATGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATCTGCCTGC  
CTCAGCCTCCCAAAGTGCTGGGATTACAGGCGTGA

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**FIGURE 4556**

CTCTCAGCAGCCAAACATGGCTCCAGTGGAGCACGTTGTGGCGGATGCTGGGGCTTTCCTGCGGCATGCGGCTCT  
GCAGGACATCGGGAAGAACATTTACACCATCCGGGAGGTGGTCACTGAGATTCGGGACAAGGCCACACGCAGGCG  
GCTCGCTGTCTGCCCTACGAGCTGCGGTTCAAGGAGCCCTTACCGGAATACGTGCGGCTGGTGACTGAGTTTTTC  
AAAGAAAACAGGAGACTACCCCAGCCTCTCTGCCACGGACATCCAAGTGCTTGCACTCACATAACAGTTGGAAGC  
AGAGTTTGTGGGGTGTCTCACCTAAAACAAGAACCACAGAAGGTTAAGGTGAGCTCATCGATTACGACCCAGCA  
AACACCTCTGCACATTTCTGGTTTCCATCTGCCCTACAAGCCTAAACCCCCACAAGAAACAGAAAAAGGACACTC  
AGCTTGTGAGCCTGAGAACCCTGGAATTTAGTTCTTCATGTTCTGGAGAAACCCTTTGCCCAACATCGATCATGA  
ACTGCAGGAGCTGCTGATTGACAGAGGTGAGGACGTTCCAAGTGAGGAGGAGGAGGAGGAAGAAAACGGGTTTGA  
AGACAGAAAAGATGACAGCGATGACGACGGGGGTGGCTGGATAACCCCCAGTAACATCAAGCAGATCCAGCAGGA  
GCTGGAGCAGTGTGACGTCCCCGAGGACGTGCGGGTGGCTGCCTGACCACAGACTTCGCCATGCAGAATGTTCT  
GCTGCAGATGGGGCTGCACGTGCTGGCGGTGAACGGCATGCTGATTCTGTGAGGCCCGGAGCTACATCTTGCGCTG  
CCATGGCTGTTTCAAGACAACGTCTGACATGAGCCGAGTGTCTGCTCACACTGTGGGAACAAGACCCTGAAGAA  
AGTGTCCGTGACCGTCAGCGACGACGGCACCCTGCACATGCACTTCTCCCGCAACCCCAAGGTGCTGAACCCCCG  
CGGCCTCCGGTACTCGCTTCCCACTCCCAAAGGGGGCAAATACGCCATCAACCCCCATCTCACCGAGGATCAGCG  
CTTCCCTCAGCTGCGACTCTCCCAAAGGCCAGGCAGAAAACCAACGTGTTTCGCCCCCTGACTACATCGCCGGGGT  
GTCACCCTTTGTGAGAATGACATCTCCAGCCGCTCAGCTACCCTGCAGGTCCGGGACAGCACCTTGGGAGCTGG  
GCGGAGACGCTTAAATCCCAACGCTTCCAGAAAGAAGTTTGTGAAGAAAAGGTGAAGAGCGAGTTCCCGCAGGCA  
AATTGGATGGGCGTCTGGCCGCCGTGGAGTTCCGGTGACCCATTTCCCCAGCCGTGTCGTCTCCAGGACCACCCG  
ATGAAATAACAGGCGGGCTTCACGGTGCGGCTCTGTCCGCCATGCCCGCTGGGTCTGCAGGGAACCTGGACTG  
TCCCATGGCCTGTGAGCACCGGAGCGCCTGGCTGCCTGCCAAGGAAGTGCAATTGCATAAAAACAGAAAGAACAA  
CGCCCTGGAGCCAATCTTCAAGAAAAGGAATTTCCAAAGGATAATATTTTTCTAATAAATGCGGCTGCAACCTCCT  
GTGCATTTAATTAAATAGGCCAAATTTTTGCTGCTTAGGTTCATCTCAAGGCTGATACTTGAGCTGTGTGCCCAGA  
GATCATGCATTTAGATTTATATTTTTGCCAGAAAATACAAGGTTATAATAAACTAAGAACTACCAAAAAAAAAA  
AAAAAAA



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**FIGURE 4557**

MAPVEHVADAGAF LRHAALQDIGKNIYTIREVVTEIRDKATRRRLAVLPYELRFKEPLPEYVRLVTEFSKKTGD  
YPSLSATDIQVLALTYQLEAEFVGVS HLKQEPQKVKVSSSIQHPETPLHISGFHLPYKPKPPQETEKGHSACEPE  
NLEFSSFMFWRNPLPNIDHELQELLIDRGEDVPSEEEEEENG FEDRKDDSDDDGGGWITPSNIKQIQE LEQCD  
VPEDVRVGCLTTDFAMQNVLLQMGLHVLAVNGMLIREARSYILRCHGCFKTTSDMSRVFCSHCGNKTLKKVSVTV  
SDDGTLHMHFSRNPKVLNPRGLRYS LPTPKGGKYAINPHLTEDQRF PQRLRSQKARQKTNVFAPDYIAGVSPFVE  
NDISSRSATLQVRDSTLGAGRRRLNPNASRKKFVKKR

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**FIGURE 4558**

CTTTTCTCGGGACGGGAGAGGCCGTGTAGCGTCGCCGTTACTCCGAGGAGAGACCAGTCGGTAGAGGAGAAGTCC  
AGGTTAGAGGGAAGTGGGAGGCACTTTGCTGTCTTCAATCGAAGTTGAGGGTGCAAAAATGCAGAGTAATAAAAC  
TTTAACTTGGAGAAGCAAAACCATACTCCAAGAAAGCATCATCAACATCACCACCAGCAGCAACAGCTGCAGCC  
GCCACCACCGCCAATACCTGCAAATGGGCAACAGGCCAGCAGCCAAAATGAAGGCTTTGACTATTTGGCCTGAAG  
AATTTTAGAAAACCAGGAGAGAAGACCTTCACCCAACGAAGCCGTCTTTTGTGGGAAATCTTCCTCCCGACATC  
ACTGAGGAAGAAATGAGGAACTATTTGAGAAATATGGAAAGGCAGGCGAAGTCTTCATTTCATAAGGATTAAGGA  
TTTGGCTTTATCCGCTTGGAAACACGAACCCTAGCGGAGATTGCGAAAGTGGAGCTGGACAATATGCCACTCTGT  
GGAAAGCAGCTGCGTGTGCGCTTTTCTGCCATAGTGCATCCCTTACAGTTCGAAACCTTCCTCAGTATGTGTCC  
AACGAAGTGCTGGAAGAAGCCTTTTCTGTGTTTGGCCAGGTAGAGAGGGCTGTAGTCATTGTGGATGATCGAGGA  
AGGCCCTCAGGAAAAGGCATTGTTGAGTTCTCAGGGAAGCCAGCTGCTGGGAAAGCTCTGGACAGACGCAGTGAA  
GGCTCCTTCCTGCTAACCACATTTCTCGTCTGTGACTATGGAGCCCATGGACCAGTTAGATGATGAAGGGGA  
CTTCCAGAGAAGCTGGTTATAAAAAACCAGCAATTTACAAAGGAACGAGAGCAACCACCCAGATTTGCACAGCCT  
GGCTCCTTTGAGTATGAATATGCCATGCGCTGGAAGGCACCTCATTGAGATGGAGAAGCAGCAGCAGGACCAAGTG  
GACCGCAACATCAAGAGGCTCGTGAGAAGCCAGAGATGGAGATGGAGGCTGCACGCCATAAGCACCAGGTGATG  
CTAATGAGACAGAATTTGATGAGGCGCAAGAAGAACTTCGGAGGATGGAAGAGCTGCACAACCAAGAGGTGCAA  
AAACGAAAGCAACTGGAGCTCAGGCAGGAGGAAGAGCGCAGGCGCCCTGAAGAAGAGATGCGGCGGCAGCAAGAA  
GAAATGATGCAGCCACAGCAGGAAGGATTCAAGGGAACCTTCCTGATGTGAGAGAGCAGGAGATTTGGATGGGT  
CAGATGGCTATGGGAGGTGCTATGGGCATAAACAGCAGAGGTGCCTTGACCCCTGCTCCTGTGCCAGCTGGTACC  
CCAGCTCCTCCAGGACCTGCCACTATGATGCCGGATGGAACCTTTGGGATTGACCCACCAACAACCTGAACGCTTT  
GGTCAGGCTGCTACAATGGAAGGAATTGGGGCAATTGGTGAACTCCTCCTGCATTCAACCATGCAGCTCCTGGA  
GCTGAATTTGCTCCAAACAAACGTCGCCGATACTAATAAGTTGCAGTGTCTAGTTTCTCAAACCCCTTAAAGAA  
GGACCCTTTTGGACCAGCCAGAATTCTACCCTGGAAAAGTGTTAGGGATTCTTCCAATAGTTAGATCTACCCCT  
GCCTGTACTACTCTAGGGAGTATGCTGGAGGCAGAGGACAAGGGAGGGGTGGTATTAAACAAGTCAATTCTATGT  
AGTATATTATTTAATCAGTTCTGTGTGGTGCATTCCTGAAGTCTCAAATGTGATTGTTGAGGGCCTGGGGAAACC  
ATGGCAAAGTAGATCCAGTTAGAGCCCATTAATCTTGATCATTCTGTTTTTTTTGGTTTGTGTTGTTTTTTTTT  
TTTTTTTTTTTTGTCCATCTTGTTTCATTTGCTTGCCCTGCCCCGAGATGGAGTCTTACTCTGTGCCCCAGGCT  
GGAGTGTAGTGGCACGATCTCGGCTCACTGCAATCTCTGCCTCTCGGGTTCAAGCTTGTCAGGCTGATCTTGAA  
CTCCTGACCTCGTGATCCCCTGCCTCAGCCTCCCAAAATGCTGGGATTACAGGGGTGAGCCACCGTGCCCAACCT  
CACTTGCTTTCTTATCCTTACACTCCCCCAGTCCCAGAGAACTGCCACATACACCACAAAAACCAACATCCCC  
CAATGACCTTAGCCGCATTGCTCCATTCACTCCCAGGTGAGAATTCAGGTAAACGTCCACAAAGGTCACAGGCAA  
CGTACATACGGTTCTATTATATCCCATATATTACCCCTTCATGTCCTAAAGAAGACATTTTCTCTTAGAGATTTT  
CATTTTAGTATACTTTTAAAAAAAATCTTGTTAACTTGCCCTCCATCTTTTTCTTGGGTGAGGACACCAGGA  
ATGACCCTTTTGTGTCTATGATACTGCTGTTACAGCTTTTCTTGATAGGCCTAGTACAATCTTGGGAACAGGGT  
TACTGTATACTGAAGGTCTGACAGTAGCTCTTAGACTCGCCTATCTTAGGTAGTCATGCTGTGCCCTTTTTTTTCC  
ATTGGTGTATTGATTTGATTTGTCTCTGATATATTTGGAGTTTTTCTGAGAACTGGAGCAGTAATGCAGCATCG  
ACCTATTAAATAACATTTTAAGCCTTT

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**FIGURE 4559**

MPLCGKQLRVRFSCHSASLTVRNLPQYVSNEVLEEAFSVFGQVERAVVIVDDRGRPSGKGIVEFSGKPAAGKALD  
RRSEGSFLLTTFFRPVTIMEPMDQLDDEGGLPEKLVKNQQFHKEREQPPRFAQPGSFYEYAMRWKALIEMEKQQ  
QDQVDRNIKEAREKPEMEMEAAARHKHQVLMRQNLMRQEELRRMEELHNQEVQKRKQLELRQEEERRRPEEEMR  
RQQEEMMQPQQEGFKGTFPDVREQEIWMGQMAMGGAMGINSRGALTPAPVPAGTPAPPGPATMPDGTGLGLTPPT  
TERFGQAATMEGIGAIGETPPAFNHAAPGAEFAPNKRRRY

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**FIGURE 4560**

GCAGTGAAGGCTCCTTCCTGCTAACCACATTTCTCGTCCTGTGACTATGGAGCCCATGGACCAGTTAGATGATG  
AAGGGGGACTTCCAGAGAAGCTGGTTATAAAAAACCAGCAATTCACAAGGAACGAGAGCAACCACCCAGATTTG  
CACAGCCTGGCTCCTTTGAGTATGAATATGCCATGCGCTGGAAGGCACTCATTGAGATGGAGAAGCAGCAGCAGG  
ACCAAGTGGACCGCAACATCAAAGAGGCTCGTGAGAAGCCAGAGATGGAGATGGAGGCTGCACGCCATAAGCACC  
AGGTCATGCTAATGAGACAGAATTTGATGAGGCGCCAAGAAGAAGCTTCGGAGGATGGAAGAGCTGCACAACCAAG  
AGGTGCAAAAACGAAAGCAATCTCTGCCTCTCGGGTTCAAGCTTGTCCAGGCTGATCTTGAACCTCCTGACCTCGT  
GATCCCCTGCCTCAGCCTCCCAAAATGCTGGGATTACAGGGGTGAGCCACCGTGCCCAACCTCACTTGCTTTCTT  
ATCCTTACACTCCCCCAGTCCCAGAGAACTGCCACATACACCACAAAAACCAACATCCCCCAATGACCTTAGC  
CGCATTGCTCCATTCACTCCCAGGTGAGAATTCAGGTAAACGTCCACAAAGGTCACAGGCAACGTACATACGGTT  
CTATTATATCCCATATATTACCCCTTCAIGTCCTA

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**FIGURE 4561**

CTTTTCTCGGGACGGGAGAGGCCGTGTAGCGTCGCCGTTACTCCGAGGAGAGACCAGTCGGTAGAGGAAGAGCGC  
AGGCGCCCTGAAGAAGAGATGCGGCGGCAGCAAGAAGAAATGATGCAGCCACAGCAGGAAGGATTCAAGGGAACC  
TTCCCTGATGTGAGAGAGCAGGAGATTTGGATGGGTCAGATGGCTATGGGAGGTGCTATGGGCATAAACAGCAGA  
GGTGCCTTGACCCCTGCTCCTGTGCCAGCTGGTACCCCAGCTCCTCCAGGACCTGCCACTATGATGCCGGATGGA  
ACTTTGGGATTGACCCACCAACAACCTGAACGCTTTGGTCAGGCTGCTACAATGGAAGGAATTGGGGCAATTGGT  
GAAACTCCTCCTGCATTCAACCATGCAGCTCCTGGAGCTGAATTTGCTCCAAACAAACGTCGCCGATACTAATAA  
GTTGCAGTGTCTAGTTTCTCAAAACCCTTAAAAGAAGGACCCTTTTTGGACCAGCCAGAATTCTACCCTGGAAAA  
GIGTTAGGGATTCTTCCAATAGTTAGATCTACCCTGCCTGTACTACTCTAGGGAGTATGCTGGAGGCAGAGGAC  
AAGGGAGGGGTGGTATTAAACAAGTCAATTCTATGTAGTA

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**FIGURE 4562**

AGTGGTGTCCGCAAAGCCCAAGGTGCATAATCGTCAACCTCGAATTAACCTCTACGTGGAGGTGGCGGTGGATGG  
ACTCCCCAGTGAGACCAAGAAGACTGGGAAGCGCATTGGGAGCTCTGAGCTTCTCTGGAATGAGATCATCATTTT  
GAATGTACCGGCACAGAGTCATTTAGATTTAAAGGTCTGGAGCTGCCATACCTTGAGAAATGAAGTGTAGGCAC  
CGCATCTGTCAACCTCTCCAACGTCTTGAAGAACAATGGGGGCAAAATGGAGAACATGCAGCTGACCCTGAACCT  
GCAGACGGAGAACAAGGCAGCGTTGTCTCAGGCGGAGAGCTGACAATTTTCTGGACGGGCCAACTGTTGATCT  
GGGAAATGTGCCTAATGGCAGTGCCCTGACAGATGGATCAGCTGCCTTCGAGAGACTCCAGTGGAACAGCAGT  
AGCTCCAGAGAACCGGCACCAGCCCCCAGCACAACTGCTTTGGTGGGAAGATCCCGGACGCACAGACATTCGGG  
TGCTTCAGCCAGAACAACCCAGCAACCGGCGAGCAAAGCCCCGGTGCTCGGAGCCGGCACCGCCAGCCCGTCAA  
GAACTCAGGCCACAGTGCGTTGGCCAATGGCACAGTGAATGATGAACCCACAACAGCCACTGATCCCGAAGAACC  
TTCCGTTGTTGGTGTGACGTCCCCACCTGCTGCACCCTTGAGTGTGACCCGAATCCCAACAGACTTCTCTCCC  
TGCCCCAGCCACACCGGCTGAAGGAGAGGAACCCAGCACTTCGGGTACACAGCAGCTCCCAGCGGTGCCAGGC  
CCCCGACGCTCTGCCTGCTGGATGGGAACAGCGAGAGCTGCCCAACGGACGTGTCTATTATGTTGACCACAATAC  
CAAGACCACCACCTGGGAGCGGCCCTTCCCTCCAGGCTGGGAAAACGCACAGATCCCCGAGGCAGGTTTTACTA  
TGTGGATCACAATACTCGGACCACCACCTGGCAGCGTCCGACCGCGGAGTACGTGCGCAACTATGAGCAGTGGCA  
GTGCGAGCGGAATCAGCTCCAGGGGGCCATGCAGCACTTCAGCCAAAGATTCTCTACCAGTCTTCGAGTGTCTC  
GACTGACCATGATCCCCCTGGGCCCCCTCCCTCCTGGCTGGGAGAAGAGACAGGACAATGGACGGGTGTATTACGT  
GAACCATAACACTCGCACGACCCAGTGGGAGGATCCCGGACCCAGGGGATGATCCAGGAACCAGCTCTGCCCCC  
AGGATGGGAGATGAAATACACCAGCGAGGGGGTGCATACTTTGTGGACCACAATACCCGACCACCACCTTTAA  
GGATCCTCGCCCGGGGTTTGAGTCGGGGACGAAGCAAGTTCCCTGGTGCTTATGACCGCAGTTTTCGGTGGAA  
GTATCACCAGTTCCGTTTCTCTGCCATTCAAATGCCCTACCTAGCCACGTGAAGATCAGCGTTTTCCAGGCAGAC  
GCTTTTCAAGATTCTTCCAACAGATCATGAACATGAAACCCTATGACCTGCGCCGCCGGCTCTACATCATCAT  
GCGTGGCGAGGAGGGCCTGGACTATGGGGGCATCGCCAGAGAGTGGTTTTTCTCTCTCATGAGGTGCTCAA  
CCCTATGTATTGTTTATTTGAATATGCCGAAAGAACAATTACTGCCTGCAGATCAACCCCGCTCCTCCATCAA  
CCCGGACCACCTCACCTACTTTTCGCTTTATAGGCAGATTTCATCGCCATGGCGCTGTACCATGGAAAGTTTCATCGA  
CACGGGCTTCACCCTCCCTTTCTACAAGCGGATGCTCAATAAGAGACCAACCCTGAAAGACCTGGAGTCCATTGA  
CCCTGAGTTCTACAACCTCATTGTCTGGATCAAAGAGAACAACCTGGAAGAATGTGGCCTGGAGCTGTACTTCAT  
CCAGGACATGGAGATACTGGGCAAGGTGACGACCCACGAGCTGAAGGAGGGCGGCGAGAGCATCCGGGTACAGA  
GGAGAACAAGGAAGAGTACATCATGCTGCTGACTGACTGGCGTTTCACCCGAGGCGTGGAAAGAGCAGACCAAAGC  
CTTCTGATGGCTTCAACGAGGTGGCCCCGCTGGAGTGGCTGCGCTACTTTGACGAGAAAGAGCTGGAGCTGAT  
GCTGTGCGGCATGCAGGAGATAGACATGAGCGACTGGCAGAAGAGCACCATCTACCGGCACTACACCAAGAACAG  
CAAGCAGATCCAGTGGTTCTGGCAGGTGGTGAAGGAGATGGACAACGAGAAGAGGATCCGGCTGCTGCAGTTTGT  
CACCGGTACCTGCCGCTGCCGCTCGGGGATTTGCCGAACCTCATCGGTAGCAACGGACCACAGAAGTTTTGCAT  
TGACAAAGTTGGCAAGGAAACCTGGCTGCCAGAAGCCACACCTGCTTCAACCGTCTGGATCTTCCACCCTACAA  
GAGCTACGAACAGCTGAGAGAGAAGCTGCTGTATGCCATTGAGGAGACCGAGGGCTTTGGACAGGAGTAACCGAG  
GCCGCCCTCCCACGCCCCCAGCGCACATGTAGTCCTGAGTCTCCTGCCCTGAGAGGCCACTGGCCCCGCAGC  
CCTTGGGAGGCCCCGTGGATGTGGCCCTGTGTGGGACCACACTGTCTCATCTGCTGCTGGCAGAAAAGCCTGATC  
CCAGGAGGCCCTGCAGTTCCCCCGACCCGCGGATGGCAGTCTGGAATAAAGCCCCCTAGTTGCCCTTTGGCCCCAC  
CTTTGCAAAGTTCCAGAGGGCTGACCCTCTCTGCAAACTCTCCCCTGTCTCTAGACCCCAACCTGGGTGTATG  
TGAGTGTGCAAGGGAAGGTGTTGCATCCCCAGGGGCTGCCGAGAGGCCGAGACCTCCTGGACTAGTTCCGGCGA  
GGAGACTGGCCACTGGGGGTGGCTGTTCCGGACTGAGAGCGCCAAGGGTCTTTGCCAGCAAAGGAGGTCTGCGCT  
GTAATTGAGCCTCTCTGATGATGAGATGAAGTGAAGTCTGAGGGAGCGGGCCCTGGGGCGAGGCCATCTCTGC  
CTGCTCCTTAGCAGGCGCCAGCGGTGGAGGTGAGTCGAGGACACATGCCGGCCAGTTAATTCAATCTCAGCC  
AATGAAGGTTTGTCTAAGCTGCCTGGGTATCCACGGGACAAAACAGCAAACCTCCCTCAGACTTTGTCCATGTAT  
AAACTTGAAGTGGTTGTGTTGTAGGGTGCAGGTTTTTTGTTACGCTGCTGTCACTTTCTGTC

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**FIGURE 4563**

MASASSSRAGVALPFEKSQLTLKVVSAPKPKVHNROPRINSYVEVAVDGLPSETKKTGKRIGSSELLWNEIIILNV  
TAQSHLDLKVWSCHTLRNELLGTASVNLSNVLKNNGGKMMENMQLTLNLQTENKGSVVSGGELTIFLDGPTVDLGN  
VPNGSALTDGSQLP SRDSSGTAVAPENRHQPPSTNCFGGRSRTHRHSGASARTTPATGEQSPGARSRRHRQPVKNS  
GHSGLANGTVNDEPTTATDPEEPSVVGVTSPPAAPLSVTPNPNNTTSLPAPATPAEGEEPSTSGTQQLPAAAQAPD  
ALPAGWEQRELPNGRVYYVDHNTKTTTWERPLPPGWEEKRTDPRGRFYVDHNTRTTTWQRPTAEYVRNYEQWQSQ  
RNQLQGAMQHFSQRFLYQSSSASTDHDPLGPLPPGWEEKRQDNGRVYYVNHNTTQWEDPRTQGMIQEPALPPGW  
EMKYTSEGVRYFVDHNTRTTTFKDPRPGFESGTKQGSFGAYDRSFRWKYHQFRFLCHSNALPSHVKISVSRQTLF  
EDSFQQIMNMKPYDLRRRLYIIMRGEGLDYGGIAREWFFLLSHEVLNPMYCLFEYAGKNNYCLQINPASSINPD  
HLTYFRFIGRFIAMALYHGKFIDTGFTLPFYKRMLNKRPTLKDLESIDPEFYNSIVWIKENNLEECGLELYFIQD  
MEILGKVTTHLKEGGESIRVTEENKEEYIMLLTDWRFTRGVVEQTKAFLDGFNEVAPLEWLRYFDEKELELMLC  
GMQEIDMSDWQKSTIYRHYTKNSKQIQWFWQVVKEMDNEKRIRLLQFVTGTCRLPVGGFAELIGSNGPQKFCIDK  
VGKETWLP RSHTCFNRDLPPYKSYEQLREKLLYAIEETEGFGQE

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**FIGURE 4564**

GGTACAGCTGCGCGTCTGCGGGAATAGGTGCAGCGGGCCCTTGGCGGGGACTCTGAGGGAGGAGCTGGGGACGG  
CGACCCTAGGAGAGTTCTTTGGGGTGACTTTCAAGATCGACTCTACTCTAACAGCAAGTGAAATCCGGCAGCGAT  
TTATAGATTTCTTCAAGAGGAACGAGCATAACGTATGTTCACTCGTCTGCCACCATCCCATTGGATGACCCCACTT  
TGCTCTTTGCCAATGCAGGCATGAACAGTTTAAACCCATTTTCTGAAACAATTGACCCATCTCACCCCATGG  
CAAAGCTGAGCAGAGCTGCCAATACCCAGAAGTGATCCGGGTGGGGGCCAAACAAAATGACCTGGACGATGTGG  
GCAAGGATGTCTATCATCACACCTTCTTCGAGATGCTGGGCTCTTGGTCTTTTGGAGATTACTTTAAGGAATTGG  
CATGTAAGATGGCTCTGGAACCTCTACCCAAAGAGTTTGGCATTCCCATTGAAAGACTTTATGTTACTTACTTTG  
GCGGGGATGAAGCAGCTGGCTTAGAAGCAGATCTGGAATGCAAAACAGATCTGGCAAAATTTGGGGCTGGATGACA  
CCAAAATCCTCCCAGGCAACATGAAGGATAACTTCTGGGAGATGGGTGACACGGGGCCCTGTGGTCTTTCAGTG  
AGATCCACTACGACCGGATTGGTGGTGGGACGCGCACATCTTGTCAACCAGGACGACCCTAATGTGCTGGAGA  
TCTGGAACCTTGTGTTTATCCAGTATAACAGGGAAGCTGATGGCATTCTGAAACCTCTTCCCAAGAAAAGCATTG  
ACACAGGGATGGGCCTGGAACGACTGGTATCTGTGCTGCAGAATAAGATGTCCAACCTATGACACTGACCTTTTGG  
TCCCTTACTTTGAAGCCATTGAGAAGGGCACAGGTGCCCCGACCATACTGGGAAAGTTGGTGTGAGGATGCCG  
ATGGGATTGACATGGCCTACCGGGTGTGGCTGACCATGCTCGGACCATCACTGTGGCACTGGCTGATGGTGGCC  
GGCCTGACAACACAGGGCGTGGATATGTGTTGAGACGGATTCTCCGCCGAGCTGTCCGATACGCCCATGAAAAGC  
TCAATGCCAGCAGGGGCTTCTTTGCTACGTTAGTGGATGTTGTGCTCCAGTCCCTGGGAGATGCATTTCTGAGC  
TGAAGAAGGACCCAGACATGGTGAAGGACATCATTAAATGAAGAAGAGGTGCAGTTTCTCAAGACTCTCAGCAGAG  
GGCTCGCATCCTGGACAGGAAAATTCAGAGCCTGGGAGACAGCAAGACCATTCCCGGAGACACTGCTTGGCTCC  
TCTATGACACCTATGGGTTTCCAGTGGATCTGACTGGACTGATTGCTGAAGAGAAGGGCCTGGTGGTAGACATGG  
ATGGCTTTGAAGAGGAGAGGAAACTGGCCAGCTGAAATCACAGGGCAAGGGAGCTGGTGGGGAAGACCTCATT  
TGCTGGACATTTACGCTATCGAAGAGCTCCGGGCACGGGGTCTGGAGGTCACAGATGATTCCCCAAAGTACAATT  
ACCATTTGGACTCCAGTGGTAGCTATGTATTTGAGAACACAGTGGCTACGGTGATGGCTCTGCGCAGGGAGAAGA  
TGTTCTGTGGAAGAGGTGTCCACAGGCCAGGAGTGTGGAGTGGTGTGACACAAGACCTGTTTCTATGCTGAGCAAG  
GAGGCCAGATCTATGACGAAGGCTACCTGGTGAAGGTGGATGACAGCAGTGAAGATAAAACAGAGTTTACAGTGA  
AGAATGCTCAGGTCCGAGGAGGGTATGTGCTACACATTGGAACCATCTACGGTGACCTGAAAGTGGGGGATCAGG  
TCTGGCTGTTTATTGATGAGCCCCGACGAAGACCCATCATGAGCAACCACACAGCTACGCACATTCTGAACTTCG  
CCCTGCGCTCAGTGCTTGGGGAAGCTGACCAGAAAGGCTCATTGGTTGCTCCTGACCGCCTCAGATTTGACTTTA  
CTGCCAAGGGAGCCATGTCCACCCAACAGATCAAGAAGGCTGAAGAGATTGCTAATGAGATGATTGAGGCAGCCA  
AGGCCGTCTATACCCAGGATTGCCCCCTGGCAGCAGCGAAAAGCCATCCAGGGCCTACGGGCTGTGTTTGATGAGA  
CCTATCCTGACCCGTGTGCGAGTCTGCTCCATTGGGGTCCCGGTGTCCGAGTTGCTGGATGACCCCTCTGGGCCTG  
CTGGCTCCCTGACTTCTGTTGAGTTCTGTGGGGGAACGCACCTGCGGAACCTCGAGTCATGCAGGAGCTTTTGTGA  
TCGTGACGGAAGAAGCCATTGCCAAGGGTATCCGGAGGATTGTGGCTGTACAGGTGCCGAGGCCAGAAAGGCC  
TCAGGAAAAGCAGAGAGCTTGAAGAAATGTCTCTGTCTGTCATGGAAGCCAAAGTGAAGGCTCAGACTGCTCCAAACA  
AGGATGTGCAGAGGGAGATCGCTGACCTTGGAGAGGCCCTGGCCACTGCAGTCATCCCCCAGTGGCAGAAGGATG  
AATTGCGGGAGACTCTCAAATCCCTAAAGAAGGTTCATGGATGACTTGGACCGAGCCAGCAAAGCCGATGTCCAGA  
AACGAGTGTTAGAGAAGACGAAGCAGTTTCATCGACAGCAACCCCAACCAGCCTCTTGTCTATCCTGGAGATGGAGA  
GCGGCGCCTCAGCCAAGGCCCTGAATGAAGCCTTGAAGCTCTTCAAGATGCACTCCCTCAGACTTCTGCCATGC  
TCTTCACGGTGGACAATGAGGCTGGCAAGATCACGTGCCTGTGTCAAGTCCCCCAGAATGCAGCCAATCGGGCT  
TAAAAGCCAGCGAGTGGGTGCAGCAGGTGTGAGGCTTGTATGGACGGTAAAGGTGGTGGCAAGGATGTGTCTGCAC  
AGGCCACAGGCAAGAAGCTTGGCTGCCTGCAGGAGGCGCTGCAGCTGGCCACTTCTTCGCCCAGCTGCGCCTCG  
GGGATGTAAAGAACTGAGTGGGGAAGGAGGAGGCTCCCACTGGATCCATCCGTCCAGCCAAGAGCTCTTCATCTG  
CTACAAGAACATTTGAATCTTGGGACCTTTAAAGAGCCCCCTCTAACCAGCAGTAAGTGAACACACTTGGGAG  
CAGTCTATGTCTCAGTGCCCTTAAATTTCTGCCCTGAGCCCTCCACGTGAGTCCATCGGTCTAGAACCACTA  
ACCCGCAATTGCTGTTGATCGTCACGCTCGCATCTATAGATAACGGCTCTCCAGACCTGAGCTTTCCGCGTCAGC  
AAGTAGGAATCGTTTTTGTGTCAGAGAATAAAAGGACCACGTGC



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**FIGURE 4565**

MDSTLTASEIRQRFIDFFKRNEHTYVHSSATIPLDDPTLLFANAGMNQFKPIFLNTIDPSHPMAKLSRAANTQKC  
IRAGGKQNDLDDVGKDVYHHTFFEMLGSWSGDYFKELACKMALELLTQEFGIPIERLYVITYFGDEAAGLEADL  
ECKQIWQNLGLDDTKILPGNMKDNFWEMGDTGPCGPCSEIHYDRIGGRDAAHLVNQDDPNVLEIWNLVFIQYNRE  
ADGILKPLPKSIDTGMGLERLVSVLQNKMSNYDTDLFVPYFEAIQKGTGARPYTGKVGAEADADGIDMAYRVLAD  
HARTITVALADGGRPDNTGRGYVLRRIILRAVRYAHEKLNASRGFFATLVDVVVQSLGDAFFELKKDPDMVKDII  
NEEEVQFLKTLRGRRIILDRKIQSLGDSKTI PGDTAWLLYDTYGFVVDLTGLIAEEKGLVVDMDGFEEERKLAQL  
KSQGGKAGGEDLIMLDIYAIEELRARGLEVTDSPKYNHYHLDSSGSYVFENTVATVMALRREKMFVEEVSTGQEC  
GVVLDKTCFYAEQGGQIYDEGYLVKVDSSSEDKTEFTVKNAQVRGGYVLHIGTIYGD LKVG DQVWLFIDEPRRRP  
IMSNHTATHILNFALRSVLGEADQKGS L VAPDRLRFDF TAKGAMSTQQIKKAE EIANEMIEAAKAVYTQDCPLAA  
AKAIQGLRAVFDETYPDVVRVVSIGVPVSELLDDPSGPAGSLTSVEFCGGTHLRNSSHAGAFVIVTEEAIAGIR  
RIVAVTGAEAQKALRKAESLKKCLSVMEAKVKAQTAPNKDVQREIADLGEALATAVIPQWQKDELRETLKSLKKV  
MDDLDRASKADVQKRVLEKTKQFIDSNPNQPLVILEMESGASAKALNEALKLFKMHSPQTSAMLFTVDNEAGKIT  
CLCQVPQNAANRGLKASEWVQQVSGLMDGKGGGKDVSAQATGKNVGC LQEALQLATSFAQLRLGDVKN

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**FIGURE 4566**

GTAGTGGGGCTGGAGCAGAGCCTGCCGCGAACCCCCGGAGCCCACGATCCCTCGTGCCATCCCTCGAATCCACCA  
GCACGAGCGTCCCACCCGCGCCTGGGACCATGGCCACTGACTCATGGGCCCTGGCGGTGGACGAGCAGGAAGCTG  
CGGCTGAGTCGTTGAGCAACTTGCATCTTAAGGAAGAGAAAATCAAACCAGATACCAATGGTGCTGTTGTCAAGA  
CCAATGCCAATGCAGAGAAGACAGATGAAGAAGAGAAAGAGGACAGAGCTGCCCAGTCCTTACTCAACAAGCTGA  
TCAGAAGCAACCTTGTTGATAACACAAACCAAGTGGAAGTCTTCAGCGGGATCCAAACTCCCCTCTGTACTCGG  
TGAAGTCTTTTGAAGAGCTTCGGCTGAAACCACAGCTTCTCCAAGGAGTCTATGCCATGGGTTTCAATCGTCCAT  
CCAAGATACAAGAGAACGCATTGCCACTGATGCTTGCTGAGCCCCACAGAACTTAATTGCCCAATCTCAGTCTG  
GTACTGGTAAAACAGCTGCCTTCGTGCTGGCCATGCTTAGCCAAGTAGAACCTGCAAAACAAATACCCCCAGTGT  
TATGTCTCTCCCCAACGTATGAGCTCGCCCTCCAAACAGGAAAAGTGATTGAACAAATGGGCAAAATTTTACCCTG  
AACTGAAGCTAGCTTATGCTGTTTCGAGGCAATAAATTGGAAAGAGGCCAGAAGATCAGTGAGCAGATTGTCATTG  
GCACCCCTGGGACTGTGCTGGACTGGTGCTCCAAGCTCAAGTTCATTGATCCCAAGAAAATCAAGGTGTTTGTTT  
TGGATGAGGCTGATGTCATGATAGCCACTCAGGGCCACCAAGATCAGAGCATCCGCATCCAGAGGATGCTGCCCA  
GGAAGTCCAGATGCTGCTTTTCTCCGCCACCTTTGAAGACTCTGTGTGGAAGTTTGCCAGAAAAGTGGTCCCAG  
ACCCAAACGTTATCAAACCTGAAGCGTGAGGAAGAGACCCTGGACACCATCAAGCAGTACTATGTCTGTGCAGCA  
GCAGAGACGAGAAGTTCCAGGCCTTGTGTAACCTCTACGGGGCCATCACCATTGCTCAAGCCATGATCTTCTGCC  
ATACTCGCAAAACAGCTAGTTGGCTGGCAGCAGAGCTCTCAAAGAAGGCCACCAGGTGGCTCTGCTGAGTGGGG  
AGATGATGGTGGAACAGAGGGCTGCAGTGATTGAGCGCTTCCGAGAGGGCAAAGAGAAGGTTTTGGTGACCACCA  
ACGTGTGTGCCCCGCGCATTGATGTTGAACAAGTGTCTGTCGTCATCAACTTTGATCTTCCCGTGGAACAAGGACG  
GGAATCCTGACAATGAGACCTACCTGCACCGGATCGGGCGCACGGGCCGCTTTGGCAAGAGGGGCCCTGGCAGTGA  
ACATGGTGGACAGCAAGCACAGCATGAACATCCTGAACAGAATCCAGGAGCATTTTAATAAGAAGATAGAAAAGAT  
TGGACACAGATGATTTGGACGAGATTGAGAAAATAGCCAACTGAGAAGCTCCACCAGCCACTGATGCCAGCCCTG  
GCACTGCCCTGCACAGGAGACAAGTGCGTTCAGGGCACAGGCCCCGACATCACCCCAAGGACAACGGCACAAGT  
AGAGAGAAACTACCTACCTCACTTCAAATTATGTTTGGACTTGACAAAAATGTATGCAAAATGATGGGGGATGGTA  
GAAAAAAATTATTTACACAACCTTGGAAGATTAGGCATGAATACACAGAGATTACCTTTTGGAAGAAAAA  
AAAAAA

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**FIGURE 4567**

MATDSWALAVDEQEAAAESLSNLHLKEEKIKPD TNGAVVKTNANA EKTDEEEKEDRAAQSLNKLIRSNLVDNTN  
QVEVLQRDPNSPLYSVKSFEELRLKPQLLQGVYAMGFNRPSKIQENALPLMLAEPPQNLI AQSQSGTGKTA AFVL  
AMLSQVEPANKYPQCLCLSP TYELALQTGKVIEQMKG FYPELKLAYAVRGNKLERGQKISEQIVIGTPGTVLDWC  
SKLKFIDPKKIKV FVLDEADVMIATQGHQDQSIRIQ RMLPRNCQMLLFSATFEDSVWKFAQKVVPDPNVIK KRE  
EETLDTIKQYYVLCSSRDEKFQALCNLYGAITIAQAMIFCHTRKTASWLAAELSKEGHQVALLSGEMMVEQRAAV  
IERFREGKEKVLVTTNVCARGIDVEQVSVVINFDLPVDKDGNDNETYLHRIGRTGRFGKRGLAVNMVDSKHSMN  
ILNRIQEHFNKKIERLDTDDLDEIEKIAN

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**FIGURE 4568**

GTACTATCCTCCTTACTTTTGGGTCGGGCCCTCCGGGAAGATGCGCGCCGTGCAGGCGGCCGAGGTGAAAGTGGA  
TGGCAGCGAGCCGAAACTGAGCAAGAATGAGCTGAAGAGACGCCTGAAAGCTGAGAAGAAAGTAGCAGAGAAGGA  
GGCCAAACAGAAAGAGCTCAGTGAGAAACAGCTAAGCCAAGCCACTGCTGCTGCCACCAACCACACCACTGATAA  
TGGTGTGGGTCTTGAGGAAGAGAGCGTGGACCCAAATCAATACTACAAAATCCGCAGTCAAGCAATTCATCAGCT  
GAAGGTCAATGGGGAAGACCCATACCCACACAAGTTCCATGTAGACATCTCACTCACTGACTTCATCCAAAAATA  
TAGTCACCTGCAGCCTGGGGATCACCTGACTGACATCACCTTAAAGGTGGCAGGTAGGATCCATGCCAAAAGAGC  
TTCTGGGGGAAAGCTCATCTTCTATGATCTTCGAGGAGAGGGGGTGAAGTTGCAAGTCATGGCCAATTCCAGAAA  
TTATAAATCAGAAGAAGAATTTATTCATATTAATAACAACTGCGTCGGGGAGACATAATTGGAGTTTCAGGGGAA  
TCCTGGTAAAACCAAGAAGGTGAGCTGAGCATCATTCCGTATGAGATCACACTGCTGTCTCCCTGTTTGCATAT  
GTTACCTCATCTTCACTTTGGGCTCAAAGACAAGGAAACAAGGTATCGCCAGAGATACTTGGACTTGATCCTGAA  
TGACTTTGTGAGGCAGAAATTTATCATCCGCTCTAAGATCATCACATATATAAGAAGTTTCTTAGATGAGCTGGG  
ATTCTAGAGATTGAAACTCCCATGATGAACATCATCCCAGGGGGAGCCGTGGCCAAGCCTTTCATCACTTATCA  
CAACGAGCTGGACATGAACCTTATATATGAGAATTGCTCCAGAACTCTATCATAAGATGCTTGTGGTTGGTGGCAT  
CGACCGGGTTTATGAAATTGGACGCCAGTTCCGGAATGAGGGGATTGATTTGACGCACAATCCTGAGTTACCCAC  
CTGTGAGTTCTACATGGCCTATGCAGACTATCACGATCTCATGGAATCACGGAGAAGATGGTTTCAGGGATGGT  
GAAGCATATTACAGGCAGTTACAAGGTCACCTACCACCCAGATGGCCCAGAGGGCCAAGCCTACGATGTTGACTT  
CACCCACCCCTTCGGCGAATCAACATGGTAGAAGAGCTTGAGAAAGCCCTGGGGATGAAGCTGCCAGAAACGAA  
CCTCTTTGAAACTGAAGAACTCGCAAAATCTTGATGATATCTGTGTGGCAAAGCTGTTGAATGCCCTCCACC  
TCGGACCACAGCCAGGCTCCTTGACAAGCTTGTTGGGGAGTTCCTGGAAGTGAAGTTCATCAATCCTACATTAT  
CTGTGATCACCCACAGATAATGAGCCCTTTGGCTAAATGGCACCGCTCTAAAGAGGGTCTGACTGAGCGCTTTGA  
GCTGTTTGTGATGAAGAAAGAGATATGCAATGCGTATACTGAGCTGAATGATCCCATGCGGCAGCGGCAGCTTTT  
TGAAGAACAGGCCAAGGCCAAGGCTGCAGGTGATGATGAGGCCATGTTCATAGATGAAAACCTTCTGTACTGCCCT  
GGAATATGGGCTGCCCCCACAGCTGGCTGGGGCATGGGCATTGATCGAGTCGCCATGTTTCTCACGGACTCCAA  
CAACATCAAGGAAGTACTTCTGTTTCTGCCATGAAACCCGAAGACAAGAAGGAGAATGTAGCAACCACTGATAC  
ACTGGAAGCACAACAGTTGGCACTTCTGTCTAGAAAAATAATAATTGCAAGTTGTATAACTCAGGCGTCTTTGCA  
TTTCTGCGAAAGATCAAGGTCTGCAAGGGAATCTTGTGTGCTGCTTTCCATTTGACACCGCAGTTCTGTTCAGC  
CATCAGAAGAGAGACAAGGAATTAAAAATTTCTTTTAAATCCTGTTA

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**FIGURE 4569**

MAAVQAAEVKVDGSEPKLSKNELKRRLKAEKKVAEKEAKQKELSEKQLSQATAAATNHTTDNGVGPEEESVDPNQ  
YYKIRSQAIIHQKVNVEDPYPHKFHVDISLTDIFIQYSHLQPGDHLTDITLKVAGRIHAKRASGGKLIFYDLRGE  
GVKLQVMANSRNYKSEEEFIHINNKLRGDIIGVQGNPGKTKKGELSIIPYEITLLSPCLHMLPHLHFGLKDKET  
RYRQRYLDLILNDFVRQKFIIRSKIITYIRSFLDELGFLEIETPMNIIIPGGAVAKPFITYHNELDMNLYMRIAP  
ELYHKMLVVGGIDRVYEIGRQFRNEGIDLTHNPEFTTCEFYMAYADYHDLMEITEKMOVSGMVKHITGSYKVITYHP  
DGPEGQAYDVDFTPPFRRINMVEELEKALGMKLPETNLFETEETRKILDDICVAKAVECPPPRTTARLLDKLVGE  
FLEVTCINPTFICDHPQIMSPKAKWHRSEGLTERFELFVMKKEICNAYTELNDPMRQRQLFEEQAKAKAAGDDE  
AMFIDENFCTALEYGLPPTAGWGMGIDRVAMFLTDSNNIKEVLLFPAMKPEDKKENVATTDILESTTVGTSV

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**FIGURE 4570**

AAGATGGCGGACCTTGATTGCGCTCCGAAGCTGTCAGGGGTGCAGCAGCCGTCTGAGGGGGTGGGAGGTGGCCGC  
TGCTCCGAAATCTCCGCTGAGCTCATTGCTCCCTGACAGAGCTGCAGGAGCTGGAGGCTGTATACGAACGGCTC  
TGCGGCGAGGAGAAAGTGGTGGAGAGAGAGCTGGATGCTCTTTTGGAACAGCAAAACACCATTGAAAGTAAGATG  
GTCACCTCTCCACCGAATGGGTCCTAATCTGCAGCTGATTGAGGGAGATGCAAAGCAGCTGGCTGGAATGATCACC  
TTTACCTGCAACCTGGCTGAGAATGTGTCCAGCAAAGTTCTGTCAGCTTGACCTGGCCAAGAACCCTCTATCAG  
GCCATTGAGAGAGCTGATGACATCTTGGACCTGAAGTTCTGTCATGGATGGAGTTGAGACTGCTTTGAGGAGTGAA  
GATTATGAGCAGGCTGCAGCACATACTCATCGCTACTTGTGCCTGGACAAGTGGGTCAATTGAGCTCAGCCGACAG  
GGCAAAGAGGGGAGCATGATTGATGCCAACCTGAAATTGCTGCAGGAAGCTGAGCAACGTCTCAAAGCCATTGTG  
GCAGAGAAGTTTGCCATTGCCACCAAGGAAGGTGATCTGCCCCAGGTGGAGCGCTTCTTCAAGATCTTCCCCTG  
CTGGGTTTGCATGAGGAGGGATTAAGAAAGTTCTCGGAGTACCTTTGCAAGCAGGTGGCCAGTAAAGCTGAGGAG  
AATCTGCTCATGGTGTCTGGGGACAGACATGAGTGATCGGAGAGCTGCAGTCATCTTTGAGATACACTTACTCTT  
CTGTTTGAAGGGATTGCCCGCATTGTGGAGACCCACCAGCCAATAGTGGAGACCTATTATGGGCCAGGGAGACTC  
TATACCCTGATCAAATATCTGCAGGTGGAATGTGACAGACAGGTGGAGAAGGTGGTAGACAAGTTTCATCAAGCAA  
AGGGACTACCACCAGCAGTTCCGGCATGTTTCAAGACAACCTGATGAGAAATTCTACAACAGAAAAAATCGAACCA  
AGAGAACTGGACCCCATCTGACTGAGGTCAACCTGATGAATGCCCGCAGTGAGCTATACTTACGCTTCTCTCAAG  
AAGAGGATTAGCTCTGATTTTGGAGGTGGGAGACTCCATGGCCTCAGAGGAAGTAAAGCAAGAGCACCAGAAGTGT  
CTGGACAAACTCCTCAATAACTGCCCTTTTGGAGCTGTACCATGCAGGAGCTAATTGGCTTATATGTTACCATGGAG  
GAGTACTTCATGAGGGAGACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGGCCAGCTGACATCCAGC  
ATGGTGGATGATGTCTTCTACATTGTTAAGAAGTGCATTGGGCGGGCTCTGTCCAGCTCCAGCATTGACTGTCTC  
TGTGCCATGATCAACCTCGCCACCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGATG  
GGCTTTCTGCCACCACCTTCCAGGACATCCAGCGCGGGGTGACAAGTGCCGTGAACATCATGCACAGCAGCCTC  
CAGCAAGGCAAATTTGACACAAAAGGCATCGAGAGTACTGACGAGGCGAAGATGTCCTTCTGGTGACTCTGAAC  
AACGTGGAAGTCTGCAGTGAAACATCTCCACTCTGAAGAAGACACTGGAGAGTGACTGCACCAAGCTCTTCAGC  
CAGGGCATTTGGAGGGGAGCAGGCCCAGGCCAAGTTTGACAGCTGCCTTTCTGACTTGGCCGCCGTGTCCAACAA  
TTCCGAGACCTCTTGCAGGAAGGGCTGACGGAGCTCAACAGCACAGCCATCAAGCCACAGGTGCAGCCTTGGATC  
AACAGCTTTTTCTCCGTCTCCCAACAACATCGAGGAGGAAGAATTCAATGACTATGAGGCCAACGACCTTGGGT  
CAACAGTTCATCCTTAACCTGGAGCAGCAAATGGCAGAGTTCAAGGCCAGCCTGTCCCCGGTCTCTACGACAGC  
CTAACCGGCCCTCATGACTAGCCTTGTGCGCTGAGTTGGAGAAAGTGGTGTGAAATCCACCTTTAACCGGCTG  
GGTGGTCTGCAGTTTGACAAGGAGCTGAGGTGCTCATTTGCCTACCTTACCACGGTGACCACCTGGACCATCCGA  
GACAAGTTTGCCCGGCTCTCCAGATGGCCACCATCTCAATCTGGAGCGGGTGACCGAGATCCTCGATTACTGG  
GGACCCAATTCCGGCCCATTGACGTGGCGCCTCACCCCTGCTGAAGTGCGCCAGGTGCTGGCCCTGCGGATAGAC  
TTCCGCAGTGAAGATATCAAGAGGCTGCGCCTGTAGCTGCCTGGATGAGCACACCTGGCTCATCACACTTGCAGG  
CCTGTTCCCTAAGGGGCCCCAGCCAAGGAGCTGAGCGAGGCTGTCTGGCTTGGGGGAGATCTGACAGCCCAGACC  
TTTCTACGGCTGGCAGCAGAGAAACAAAGTCTGGACCCACTCCATGCTCTGCCCTCAGACCTGGCCAGGTGATGC  
TCTGGGGGCGAGCATCTCCCCACCGAGAGAAGCGGGCTCCTAATGAGGTGGGAAAGCCACGGCAGGCAGCGAGCAG  
CCCAGGCCAGCTTTCTGATGGATGGTCAGTCTTGGCCCTCAAACACTACAGCAAACAAGCTACCCCTGCCAGT  
CCTAGACAACCTTGGGTACATCTGGGGACCTAGCAGTTAGGCTTGACTTTGAGGAGAGGCTGTGATGTTTATGATC  
CCTGAATAAAGCTACTCCTTGGAGAGATGCCAGTGTGCTGTTACCAGGGAGGGCCAGATGCTATGGGGC

[illegible]

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**FIGURE 4572**

MCEGPSRISGPIPPDPTLCPDNYRRPTSAQGRLEGNAKLDLLTSDRALDTTAPRGPCIGPGAGEILERGQRGVG  
DVLLQLEGISLGPGASLKRKDPKDHEKENLRRIREIQKRFREQERSREQGQPRPLKALWRSPKYDKVESRVKAQL  
QEPGPASGTESAHLRAHSRCGPGLPPPHVSSPQTPPGPEAKEPGLGVDFIRHNARAARKRAPRRHSCSLQVLAQ  
VLEQQRQAQEHYNATQKGHVPHYLLERRDLWRREAEARKQSQPDPAAMP PGHTRMPENQRLETITKLLQSQSQLLR  
ELVLLPAGADSLRAQSHRAELDRKLVQVEEAIKIFSRPKVFVKMDD



[illegible]

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**FIGURE 4574**

MKMLPGVDVFGTGSSARVLVPLLR AEGFTVEALWGKTEEEAKQLAEEMNIAFYTSRTDDILLHQDVDLVCISIPP  
PLTRQISVKALGIGKNVVCEKAATSVDAFRMVTASRYYPQLMSLVGNVLRFLPAFVRMKQLISEHYVGAVMICDA  
RIYSGSLLSPSYGWICDELMGGGGLHTMGTYIVDLLTHLTGRRAEKVHGLLKTFVRQNAAIRGIRHVTSDDFCFF  
QMLMGGGVCSTVTILNFMPGA FVHEVMVVG SAGRLVARGADLYGQKNSATQEELLLRDSLAVGAGLPEQGPQDVP  
LLYLKGMVYMVQALRQSFQGGQDRRTWDRTPVSMAASFEDGLYMQSVVDAIKRSSRSGEWEAVEVLTEEPDTNQNL  
LCEALQRNNL

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**FIGURE 4575**

GGAAGGGACAGTCGGCCGCAGACCGCGCTGGGTTGCCGCTGCCGCTGCCGCCATCGTGCCAGCCCCCTCGGGTCTC  
CGTGAGGCCGGGTGACGCTCCAGAAATGGGAGACAAGCCAATTTGGGAGCAGATTGGATCCAGCTTCATTCAACAT  
TACTACCAGTTATTTGATAATGATAGAACCCAACTAGGCGCAATTTACATTGACGCGTCATGCCTTACGTGGGAA  
GGACAACAGTTCCAGGGGAAAGCTGCCATTGTGGAGAAGTTGTCTAGCCTTCCGTTCCAGAAAAATTCAGCACAGC  
ATCACCGCGCAGGACCATCAGCCCCACTCCAGATAGCTGCATCATCAGCATGGTTGTGGGCCAGCTTAAGGCGGAT  
GAAGACCCCATCATGGGGTTCCACCAGATGTTCCATTAAAGAACATCAACGATGCTTGGGTTTGCACCAATGAC  
ATGTTTCAAGGCTCGCCCTGCACAACCTTTGGCTGACCTCCTCTCAGCTAGGCACTCACGCTGTTTCCTCCTCCCTCC  
TCTTCCCAATACTATTCCCACTCCTCCAGATGCTCCAAATATCATGCACAAATGAGCAGGGCCGCGGTGGGAGTG  
GGCGCAGTGCGCTGCTGCCACTGAGGTGTTGTGCATGATGTTTGGATGCTAGACTAGTTGCATCTGACGGGAGAA  
GTTTGTGTTGTACAGCGCATGCCTTGGAAGACTTAAGTAATGCAAAGGTTGTCCTTTTTTTTTTTTTTTTTTTT  
TTTTAATCTACTGACAAGTTGCTCTAGTAACCCAAAGAAGTGAAGGAGAAAGCAGCTGCCTCACCGCCCAGACAT  
TGATTTGTTTCAGATGTTTCAATGCCTCATGATACAATAAAACCACAAAAATTTCTTAACAAAAA

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**FIGURE 4576**

MGDKPIWEQIGSSFIQHYYQLFDNDRTQLGAIYIDASCLTWEGQQFQGKAAIVEKLSSLPFQKIQHSITAQDHQP  
TPDSCIISMVVGQLKADEDPIMGFHQMFLLKNINDAWVCTNDMFRLALHNFG

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**FIGURE 4577**

ATTGCCCGGAGATGGCCGGCAGAGCCGCCGAGACGCCGAAGAGCCCCGCCGCCGCGCGAGGTGTAGACGGGGCAC  
TGCCTTCAGAGCAGGTCCCTGCCAGCCTCGCTGGAGAGGATGCCCTCGTGTCCGTGATGGGCTGTGGGACAAGCAA  
GGTCCCTCCCGAGCCACCCAAGGATGTCCAGCTGGATCTGGTCAAGAAGGTGGAGCCCTTCAGTGGCACTAAGAG  
TGACGTGTACAAGCACTTCATCACAGAGGTGGACAGTGTGGCCCTGTCAAAGCCGGGTTCACAGCAGCAAGTCA  
GTATGCACACCCCTGCCCGGTCCCCGACTGCTGGCCACACGGAGCCTCCCTCAGAACCACCACGCAGGGCCAG  
GGTAGCTAAGTACAGGGCCAAGTTTGACCCACGTGTTACAGCTAAGTATGACATCAAGGCCCTAATTGGCCGAGG  
CAGCTTCAGCCGAGTGGTACGTGTAGAGCACCGGGCAACCCGGCAGCCGTATGCCATCAAGATGATTGAGACCAA  
GTACCGGGGAGGGGCGGGAGGTGTGTGAGTCGGAGCTGCGTGTGCTGCGTCGGGTGCGTCATGCCAACATCATCCA  
GCTGGTGGAGGTGTTTCGAGACACAGGAGCGGGTGTACATGGTGTATGGAGCTGGCCACTGGTGGAGAGCTCTTTGA  
CCGCATCATTGCCAAGGGCTCCTTCACCGAGCGTGACGCCACGCGGGTGTGTCAGATGGTGTGATGGCGTCCG  
GTATCTGCATGCACTGGGCATCACACACCGAGACCTCAAACCTGAGAATCTGCTCTACTACCATCCGGGCACTGA  
CTCCAAGATCATCATCACCAGCTTCGGCCTGGCCAGTGTCTCGCAAGAAGGGTGTGACTGCTTGATGAAGACCAC  
CTGTGGCAGCCTGAGTACATTGCCCCAGAAGTCTGGTCCGCAAGCCATACACCAACTCAGTGGACATGTGGGC  
GCTGGGCGTCATTGCCTACATCCTACTCAGTGGCACCATGCCGTTTGAGGATGACAACCGTACCCGGCTGTACCG  
GCAGATCCTCAGGGGCAAGTACAGTTACTCTGGGGAGCCCTGGCCTAGTGTGTCCAACCTGGCCAAGGACTTCAT  
TGACCGCCTGCTGACAGTGGACCCTGGAGCCCGTATGACTGCACTGCAGGCCCTGAGGCACCCGTGGGTGGTGTGAG  
CATGGCTGCCTCTTCATCCATGAAGAACCTGCACCGCTCCATATCCAGAACCTCCTTAAACGTGCCTCCTCGCG  
CTGCCAGAGCACCAAATCTGCCCAGTCCACGCGTTCCAGCCGCTCCACACGCTCCAATAAGTCACGCCGTGTGCG  
GGAACGGGAGCTGCGGGAGCTCAACCTGCGCTACCAGCAGCAATACAATGGCTGAGCCCGCTGGCTGTGCACACA  
TGCAGCACGACCCAGCCTGGCCACACACTGTGGTGGCATCTGGGTCCGATGCCCTCTCTGGAGATAGGCCTATGT  
GGCCACAGTAGGTGAAGAATGTCTGGCTCCAGCCCTTTCTCTGTGCCTTCAGCAGCCCTGTCTCACCATGGG  
CCTGGGCCAGGTGTGACAGAGTAGAGGTAGCACAGGGGGCTGTGACTCCCCCTGAACTGGGAGCCTGGCCTGGCA  
CTGATACCCCTCTTGGTGGGCAGCTGCTCTGGTGGAGTTGGGAAGGGATAGGACCTGGCCTTCACTGTCTCCCTT  
GCCCTTTGACTTTTCCCCAATCAAAGGGAACCTGCAGTGTCTGGGTGGAGTGTCTGTGGCCTCAGGACCCTTTGGG  
ACAGTTACTTCTGGGACCCCTTTCTCCACAGAGCCCTTCTCCCTGGTTTACACATTCCCATGCATCCTGATC  
CTTAAGATTATGCTCCAGTGGGAGACCCTGGTAGGCACAAAGCTTGTGCCTTGACTGGACCCGTAGCCCTGGCT  
AGGTGCAAAACAGCCCTCCACCTCCCAGCCAAGATCTGTCTTCTTCATGGTGCCTCCAGGGAGCCTTCTGGTCC  
CAGGACCTCTGGTGGAGGGCCATGGCGTGGACCTTACCCTTCTGGACTGTGTGGCCATGCTGGTCATCGGCTTG  
CCCAGGCTCCAGCCTCTCCAGATTCTGAGGGGTCTCAGCCACCGCCCTTGGTGCCTTCTTTGTAGAGCCCACCG  
CTACCTCCCTCTCCCCGTGGATGTCCATTCCATTCCCAGGTGCCTCCTTCCCAACTGGGGGTGGTTAAAGGGA  
GCCCCACTGCTGCTACCTGGGGAATGGGGCACCTGGGGGCCAAGGCAGAGGGAAGGGGGTCTCCCGATAGGGTC  
GAGTGTACAGCCTGGGTCTATCCTTTGGTGCAGCCCCATTGCCTTTTCCCTTCAGGCTCTGTTGCTCCCTCCTCT  
GCAGCTGCACGAAGGCGCCATCTGGTGTCTGCATGGGTGTTGGCAGCCTGGGAGTGATCACTGCACGCCCATCGT  
GCACACCTGCCCATCGTGCACACCCACCCATGGTGCACACCTGTAGTCTCTCCATGAGGACATGGGAAGGTAGGAG  
TTGCCGCCCTGGGGGAGGGTCCCGGGCTGCTCACCTCTCCCTTCTGCTGAGCTTCTGCGCACCCCTCCCTGGAA  
CTTAGCCATACTGTGTGACCTGCCTCTGAAACCAGGGTGCCAGGGGCACTGCCTTCTCACAGCTGGCCTTGCCCC  
GTCCACCTGTGCTGCTTCCCTTCACAGCATTAACTTCCAGTCTGGGTCCCACTGAGCCTCAAGCTGGAAGGAG  
CCCCTGCGGGAGGTGGGTGGGGTGGGTGGCTGCTTTCCAGAGGCCTGAGCCAGAACCATCCCCATTTCTTTTG  
TGGTATCTCCCCCTACCACAAACCAGGCTGGAACCCAAGCCCCCTTCTCCACAGCTGCCTTCAGTGGGTAGAATG  
GGGCCAGGGCCAGCTTTGGCCTTAGCTTGACGGCAGGGCCCCCTGCCATTGCAGGAGGGTTTGGTTCCCACTCAG  
CTTCTGCCGGTCGGCAGCCTGGGCCAGGCCCTTTCTCTGCATGTGCCACCTCCAGTGGGAAACAAAATAAGAG  
ACCACTCTGTGCCAAGTCGACTATGCCTTAGACACATCCTCCTACCGTCCCAATGCCCCCTGGGCAGGAGGCAG  
TGGAGAACCAAGCCCCATGGCCTCAGAATTTCCCCCAGTTCCCAAGTGTCTCTGGGGACCTGAAGCCCTGGGG  
CTTACGTTCTCTCTTGGCCAGGGTGGGCCTGGTCTGAGGGCAGGACAGGGGGTTTGGAGATGTGGGCCTTTGAT  
AGACCCACTTGGGCCTTCATGCCATGGCCTGTGGATGGAGAATGTGCAGTTATTTATTATGCGTATTAGTTTGT  
AAACGTATCCTCTGTATTAGTAAACAGGCTGCCTCTCCAGGGAGGGCTGCCATTTCATTC

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**FIGURE 4578**

MCGGTSKVLPEPPKDVQLDLVKKVEPFSGTKSDVYKHFI TEVDSVGPVKAGFPAASQYAHPCPGPPTAGHTEPPS  
EPPRRARVAKYRAKFDPRVTAKYDIKALIGRGSFSRVVRVEHRATRQPYAIKMIETKYREGREVCESELRLRRV  
RHANIIQLVEVFETQERVYVMELATGGELFDRIIAKGSFTERDATRVLQMVLDGVRYLHALGITHRDLKPENLL  
YYHPGTDSKIIITDFGLASARKKGDDCLMKTTTCGTPEYIAPEVLVRKPYTNSVDMWALGVIAYILLSGTMPFEDD  
NRRLYRQILRGKYSYSGEPWPSVSNLAKDFIDRLLTVDPGARMTALQALRHPWVVSMAASSSMKNLHRSISQNL  
LKRASSRCQSTKSAQSTRSSRSTRSNKSRRVRERELRELNRLRYQQYNG

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**FIGURE 4579**

ATCTGCCACGATGTTGCTGCTCAGCCTGACCCTAAGCCTGGTTCTCCTCGGCTCCTCCTGGGGCTGCGGCATTCC  
TGCCATCAAACCGGCACTGAGCTTCAGCCAGAGGATTGTCAACGGGGAGAATGCAGTGTTGGGCTCCTGGCCCTG  
GCAGGTGTCCCTGCAGGACAGCAGCGGCTTCCACTTCTGCGGTGGTTCTCTCATCAGCCAGTCCTGGGTGGTCAC  
TGCTGCCCCACTGCAATGTCAGCCCTGGCCGCCATTTTGTGTCTCCTGGGCGAGTATGACCGATCATCAAACGCAGA  
GCCCTTGCAAGTTCTGTCCGTCCTCGGGCCATTACACACCCTAGCTGGAACTCTACCACCATGAACAATGACGT  
GACGCTGCTGAAGCTCGCCTCGCCAGCCCAGTACACAACACGCATCTCGCCAGTTTGCTGGCATCCTCAAACGA  
GGCTCTGACTGAAGGCCTCACGTGTGTCACCACCGGCTGGGGTCGCCTCAGTGGCGTGGGCAATGTGACACCAGC  
ACATCTGCAGCAGGTGGCTTTGCCCTGGTCACTGTGAATCAGTGCCGGCAGTACTGGGGCTCAAGTATCACTGA  
CTCCATGATCTGTGCAGGTGGCGCAGGTGCCTCCTCGTGCCAGGGTGACTCCGGAGGCCCTCTTGTCTGCCAGAA  
GGGAAACACATGGGTGCTTATTGGTATTGTCTCCTGGGGCACCAAAACTGCAATGTGCGCGCACCTGCTGTGTA  
TACTCGAGTTAGCAAAGTTCAGCACCTGGATCAACCAGGTCATAGCCTACAACTGAGCTCACCACAGGCCCTCCCC  
AGCTCAACCCATTAAAGACCCAGGCCCTGTCCCATCATGCATTATGTCTGTCTTCTCCTGGCTCAGGAGAAAGAAG  
AGGCTGTTGAGGGTCCGACTCCCTACTTGGA~~CT~~TCTGGCACAGAAGGGGCTGAGTGACTCCTTGAGTAGCAGTGG  
CTCTTCCTAGAGTAGCCATGCCGAGGCCGGGGCCCCACCCCTCCTCCAGGGCAACCCCTGGTCCCTACAGCAAG  
AAGCCAGAACTGTTGGAATGAATGGCAGCCCTCCCTGGAGAGGCAGCCTGTTTACTGAATACAGAGGATACGTTT  
ACAAACTGAATACGCATAATAAATAACTGCACATTCTCCATCCAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4580**

MLLLSLTSLVLLGSSWCGIPAIPALSFQSRIVNGENAVLGSWPWQVSLQDSSGFHFCGGSLSQSWVVTAAH  
CNVSPGRHFVVLGEYDRSSNAEPLQVLSVSRAITHPSWNSTTMNNDVTLLKLASPAQYTTRISPVCLASSNEALT  
EGLTCVTTGWGRLSGVGNVTPAHLQQVALPLVTVNQCRQYWGSSITDSMICAGGAGASSCQGDGGPLVCQKGNT  
WVLIGIVSWGTKNCNVRAPAVYTRVSKFSTWINQVIAYN



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**FIGURE 4581A**

GGCACGAGGGGCGGGGACAGCGGCGGGGACAGCGGCGGGCGGCTGGGACGGCGGGTGCGGCGGGGCGGAGCCCCG  
ACGATGCTCACTTCAACCGTGGTGCCAGTGGACGGGCGGAGGCGGGCGACTATGACAACCTCGAGGGGCTCAGT  
TGGGTGGACTACGGGGAGCGCGCCGAGCTGGATGACTCGGACGGACATGGCAACCACAGAGAGAGCAGCCCTTTT  
CTTTCCCCCTTGAGGCTTCCAGAGGAATTGACTACTATGACAGGAACCTGGCACTGTTTGAGGAAGAGCTGGAC  
ATCCGCCCCAAAGGTATCGTCTCTTCTGGGAAAGCTCGTCAGCTACACCAACCTCACCCAGGGCGCCAAAGAGCAT  
GAGGAGGCGGAGAGTGGGGAGGGCACCCGCCGAGGGGAGCCGAGGCACCCAGCATGGGCACCCTCATGGGGGTG  
TACCTGCCCTGCCTGCAGAATATCTTTGGGGTTATCCTCTTCTCGGCTGACCTGGATGGTGGGCACAGCAGGT  
GTGCTACAGGCCCTCCTCATCGTGTCTTCTGCTGCTGTTGTACCCTGCTGACGGCCATCTCCATGAGTGCCATC  
GCCACCAACGGTGTGGTTCCAGCTGGGGGCTCCTATTTTCATGATCTCTCGTTCACTGGGGCCAGAATTTGGAGGT  
GCTGTGGGCCTGTGCTTCTACCTGGGAACAACATTTCGAGCAGCCATGTACATCCTGGGGGCCATCGAGATCTTG  
CTGACCTACATTGCCCCACCAGCTGCCATTTTTTACCCATCGGGTGCTCATGACACGTGAATGCCACTTTGAAC  
AATATGCGTGTGTATGGGACCATTTTCTGACCTTCATGACCCTGGTGGTGTGTTGTGGGGGTCAAGTATGTGAAC  
AAATTTGCCTCGCTCTTCTGCGCTGTGTGATCATCTCCATCCTCTCCATCTATGCTGGGGGCATAAAGTCTATA  
TTTGACCCTCCCGTGTGTTCCGGTATGCATGCTGGGCAACAGGACCCTGTCCCGGGACCAGTTTGACATCTGTGCC  
AAGACAGCTGTAGTGGACAATGAGACAGTGGCCACCCAGCTATGGAGTTTCTTCTGCCACAGCCCCAACCTTACG  
ACCGACTCCTGTGACCCCTACTTCATGCTCAACAATGTGACCGAGATCCCTGGCATCCCCGGGGCAGCTGCTGGT  
GTGCTCCAGGAAAACCTGTGGAGCGCCTACCTGGAGAAGGGTGACATCGTGGAGAAGCATGGGCTGCCCTCCGCA  
GATGCCCCGAGCCTGAAGGAGAGCCTGCCTCTGTACGTGGTGCCTGACATCGCCACATCCTTACCGTGCTGGTC  
GGCATCTTCTTCCCTTCTGTAAACAGGCATCATGGCTGGCTCAAACCGCTCTGGGGACCTTCGTGACGCCCAGAAG  
TCTATCCCTGTGGGGACCATTCTGGCCATCATTACAACCTTCCCTCGTGTACTTCAGCAGTGTGGTTCTCTTTGGT  
GCCTGCATTGAGGGTGTGGTTCTCCGGGACAAGTATGGCGATGGTGTGACGAGGAACCTGGTGGTGGGCACACTG  
GCCTGGCCTTACCCCTGGGTATCGTCAICGGCTCCTTCTTTTCAACGTGTGGCGCTGGCCTCCAGAGCCTCACA  
GGGGCACACGCCTATTGCAGGCCATTGCCAAGGACAACATCATCCCTTCCCTCCGGGTGTTTGGCCACGGGAAG  
GTGAATGGTGAACCCACATGGGCACCTCCTCCTGACGGCACTCATCGCCGAGCTGGGCATCCTCATCGCCTCCCTC  
GACATGGTGGCCCCCATCTTATCCATGTTCTTTCTGATGTGCTACCTGTTCTGTGAACCTCGCCTGTGCGGTGCAG  
ACACTCCTGAGGACCCCCAACTGGCGGCCCCGGTTCAAGTACTATCACTGGGCGCTGTCTTCTGGGCATGAGT  
CTCTGCCTGGCCCTTATGTTTGTCTCCTCCTGGTACTATGCCCTGGTGGCCATGCTCATCGCCGGCATGATCTAC  
AAATACATCGAGTACCAAGGGGCTGAGAAGGAGTGGGGTGACGGGATCCGAGGCCTGTCCCTGAGCGCTGCCCGC  
TACGCGCTGTTGCGGCTGGAGGAGGGGCTCCTCACACCAAGAACTGGCGGCCGAGCTGCTGGTGTGCTGAAG  
CTGGACGAGGACCTCCACGTGAAGTACCCGCGGCTCCTCACCTTCGCTCCAGCTCAAGGCTGGCAAGGGCCTG  
ACCATTGTTGGTTCTGTATCCAGGGGAGCTTCTTGGAGAGCTATGGCGAGGCTCAGGCCGCCGAGCAGACCATC  
AAGAACATGATGGAATTTGAGAAGGTGAAGGGCTTCTGCCAGGTGGTGGTGGCCAGCAAGGTGCGGGAGGGGCTG  
GCCCCCTCATCCAGTCTGTGGCCTGGGAGGCATGCGGCATAACTCCGTGGTGTGCTGGGCTGGCCCTACGGCTGG  
CGACAGAGCGAGGACCCCGTGCCTGGAAGACCTTATTGACACCGTGCCTGCACTACGGCTGCCACCTGGCC  
CTGCTCGTGCCCAAGAACATCGCCTTCTACCCAGCAACCACGAGCGCTACCTGGAGGGCCACATAGACGTGTGG  
TGGATCGTGACGATGGTGGCATGCTCATGCTTCTGCCCTTCTGCTGCGCCAGCATAAGGTCTGGAGGAAGTGC  
CGGATGCGCATCTTACAGTGGCCCAGATGGATGACAACAGCATCCAGATGAAGAAGGACCTGGCTGTCTTTCTG  
TACCATCTGCGCCTTGAGGCCGAGGTGGAGGTGGTGGAGATGCATAACAGTGACATCTCTGCATACACCTACGAG  
CGGACGCTGATGATGGAGCAGCGGTGCGAGATGCTGCGGCAGATGAGACTGACCAAGACTGAGCGGGAGCGAGAA  
GCCCAGCTGGTCAAGGATCGGCACTCGGCCCTGAGGCTGGAGAGCCTGTACTCGGACGAGGAAGATGAGTCTGCA  
GTGGGGGCTGACAAGATCCAGATGACGTGGACCAGGGACAAGTACATGACTGAGACCTGGGACCCCAGCCATGCC  
CCTGACAATTTCCGGGAGCTGGTGCACATTAAGCCGGACCAATCCAATGTGCGGCGCATGCACACTGCTGTGAAG  
CTCAATGAAGTCATTGTACGCGCTCCACGACGCGCGCTGGTTCTCCTAAACATGCCTGGCCCCACCAGGAAC  
AGTGAGGGCGACGAGAACTACATGGAGTTCCTCGAGGTGCTGACCGAGGGCCTTGAGCGGGTGTGTTGGTGGC  
GGTGGTGGCCGTGAAGTCATACCATCTACTCTGAGCCAGTGTATCTTGTGGCCTGGAGTGCAGGTCTTGGC  
CAGGACATAACAAGCTGTGGTCTGGGGTAACAGCCTCTTCCCAGCACCCACCTGCCAGCCCTGCTTGCCTGGCCC  
TGCTCTGGACCCAGCTTTGCTAGGTCTCCTTGGAAACCAGGCCTGGGCCTCAAATGGAGATGGATCCAGGTCT  
TGTGGGACCCTGGGATGTTTGGGGACTTTACTATCTAGCACCCAGTAGGCCTGTCTTGGCCAGAGAAGACTGGT

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**FIGURE 4581B**

AGGGGCCGAGTGGGGTTTGAAGGCAGCCGGCCCGGCCAGCCCAGGAGCGCTATTTATTGCATATTTATTGTTTG  
GATGTCACCATCAGAGACGAAGGGAAGGGTAGCCAGGGAGGGAGTCCAGCCCAGCTGCCTGCAGGAAGATCTGGC  
TCAGTCTACTATGGGCAGGGCCCCCACCAGCTGAGCCGAATGGAGACAGCTGAGCTGAGGCCTGACTTTTTCA  
ATAAACATTGTGTAGTTCTGGGCAA

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**FIGURE 4582**

MPHFTVVPVDGPRRGDYDNLEGLSWVDYGERAELEDDSDGHGNHRESSPFLSPLEASRGIDYYDRNLALFEEELDI  
RPKVSSLLGKLVSYTNLTQGAKEHEEAESGEGTRRRRAAEAPSMGTLMGVYLPCLQNIFGVILFLRLTWMVGTAGV  
LQALLIVLICCCCTLLTAISMSAIATNGVVPAGGSYFMISRSLGPEFGGAVGLCFYLGTTFAAAMYILGAIEILL  
TYIAPPAAIFYPGSAHDTSNATLNNMRVYGTIFLTFMTLVVFVGKYNKFASLFLACVVISILSIYAGGIKSIF  
DPPVFPVCM LGNRTL SRDQFDICAKTAVVDNETVATQLWSFFCHSPNLTTDSCDPYFMLNNVTEIPGIPGAAAGV  
LQENLWSAYLEKGDIVEKHGLPSADAPSLKESLPLYVVADIATSFTVLVGIFFP SVTGIMAGSNRSGDLRDAQS  
IPVGTILAIITTSLVYFSSVVLFGACIEGVVLRDKYGDGVSRLVVGTLAWPSPWVIVIGSFFSTCGAGLQSLTG  
APRLLQAIKDNII PFLRVFGHGKVNGEPTWALLLTALIAELGILIASLDMVAPILSMFFLMCYLFVNLACAVQT  
LLRTPNWRPRFKYYHWALSFLGMSLCLALMFVSSWYYALVAMLIAGMIYKYIEYQGAKEWGDGIRGLSLSAARY  
ALLRLEEGPPHTKNWRPQLLVLLKLDEDLHV KYPRLTFASQLKAGKGLTIVGSVIQGSFLESYGEAQAAEQTIK  
NMMEIEKVKGFCQVVVASKVREGLAHLIQSCGLGGMHRNSVVLGWPGWRQSEDPRAWKTFIDTVRCTTAAHLAL  
LVPKNIAFYPSNHERYLEGHIDVWWIVHDGGMLMLLPFLLRQHKVWRKCRMRIFTVAQMDDNSIQMKDLAVFLY  
HLRLEAEVEVEMHNSDISAYTYERTLMMEQRSQMLRQMLTKTEREREAQLVKDRHSALRLESLSDEEDES AV  
GADKIQMTWTRDKYMTETWDP SHAPDNFREL VHIKPDQSNVRRMHTAVKLNEVIVTRSHDARLVLLNMPGPPRNS  
EGDENYMEFLEVLTEGLERVLLVRGGGREVITIYS

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**FIGURE 4583**

ATCGCCAGCCTCCAGTCTGCCTCCACGACGCGCCCTTCCCCAAGGCTGGCCGGGTCTGGATGTGCCATCCCCCT  
ATTCGGAGCTACAGACCTCGCAGCTGAACTCTTAAAAAGAACCTCGCTTCTTCCTCACGGTGCTCCAGCTCCACA  
CACCGTACTGAGCCTCGCCAGCCACCGTACGCGAGGTGCGGGCGCGTCCGTGACGTCACTGATGTGCGCTTCTCC  
CGCACTAAGGGAAACATGGCTCTAACGCGGCCCGGTGCGGCTCTTTTCCCTCGTGACTCGGTTGCTCCTGGCGCCG  
CGACGGGGCCTCACGGTCCGCAGTCCCGACGAACCCCTGCCGGTGGTGCGCATCCAGTGGCTCTACAGCGGCAG  
TTGGAACAGCGGCAGAGCAGGCGGGCGGAACCTCCCGAGGCGGGTGGTGCTGTTGACCCGGACCGCTGCTGGTTTCG  
GCGCGGCGGGCCGGAGTTGAACCAGCCGGCGCGCTCACACTGGGCGGTGGGAGCGCGCGCCGCTAGCCTCTCAA  
GGCTGGAAGAGTCGACGCGCGCGTGGGACCACTTCTCCATCGAGCGCGCAACAGGAGGCGCCAGCGGTGCGA  
AAGCTCTCGTCTAAGGGCAGCTTTGCTGACCTGGGCGGTGGAGCCCCGTGTGCTGCACGCACTACAGGAGGCTGCG  
CCTGAAGTCGTTTACGCCACAACCGTGCAGTCTAGCACCATCCCCCTCACTACTTCGCGGCCGCCATGTGCTTTGC  
GCCGAGAAACCGGCAGTGGCAAGACTCTCAGCTACCTCCTGCCGCTGCTTCAACGGCTCTTGGGCCAGCCAAGC  
CTGGACTCCCTTCTATCCCCGCGCCCCGAGGCGTGGTCTTGTTCCTTCCCGAGAATTGGCCCAACAGGTGCGG  
GCTGTGGCCCAACCTTGGGCCGCTCCTTGGGCGTGTGGTGCGGGACCTGGAGGGAGGCCACGGCATGCGTAGG  
ATCAGGCTGCAGCTGTCCAGACAGCCTTCAGCAGATGTGCTTGTGGCCACTCCAGGGGCTCTGTGGAAGGCCCTG  
AAAAGTCGACTGATCAGTCTGGAGCAACTCTCCTTCTTGGTGTGGATGAGGCAGACACACTGCTGGATGAAAGC  
TTCTTGGAACTGGTGGACTACATCTTAGAGAAGAGCCACATAGCAGAAGGCCAGCTGACTTGGAAAGACCCCTTC  
AATCCCAAAGCTCAGTTAGTGCTGGTAGGAGCCACATTTCCCGAAGGTGTAGGCCAGTTGCTGAATAAAGTCGCC  
AGCCCAGATGCTGTCACCACCATCACCAGCTCCAAGCTCCACTGTATCATGCCTCATGTGAAACAGACATTTCTG  
AGACTGAAGGGAGCAGATAAGGTGGCCGAGCTGGTGACATCCTCAAGCATCGTGACAGAGCAGAAAGGACTGGT  
CCCTCAGGAACTGTTCTGGTGTCTGTAAATAGCTCCAGCACTGTGAACTGGCTGGGATATATTCTGGATGACCAC  
AAAATCCAACACCTAAGGTTGCAGGGGCAAATGCCAGCCTTGATGAGGGTAGGAATCTTCCAGTCTTCCAGAAG  
AGCTCCCGAGACATACTTCTCTGCACAGACATAGCCTCTCGGGGCGCTGGACAGCACTGGTGTGGAGCTGGTTGTC  
AATTATGATTTCCCCCAACGCTGCAAGATTACATCCACAGAGCAGGGAGAGTGGGCGGTGTGGGGAGCGAGGTG  
CCAGGCACCGTCATCAGTTTTGTGACCCATCCCTGGGATGTGAGCCTGGTTTCAAGATTGAGCTGGCGGCTCGC  
CGAAGGAGAAGTCTTCCAGGACTAGCATCCTCGGTGAAAGAGCCTTTGCCCCAAGCAACCTGATTTTGACAAATC  
TGATTAAATGTGATGCTAGAACAGGGATCTTTCCAGTATCTTGAAGTGGGTGACCACACTTGTCACTGGGAGGC  
TCTGGGCTGCCCTGTGCGCTCCTTGAAGGCGGGATGAAGTCTTTGTGACTTGGAAAGGTACGCTGCTGGCCAGC  
ATTGGAGAAGAAGCTGCTGAGCATGGCTTTCTGTAGTCTTTAGCAAGACACAAGTGGATTTTGACTTTGTATCAT  
GTCATGATTTCTAACAATAAATGATGTTTTTATGTGC

[illegible]

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**FIGURE 4585**

MILNSLSLCYHNKLILAPMVRVGTLPMLLALDYGADIVYCEELIDLKMIQCKRVVNEVLSTVDFVAPDDRVRVFR  
TCEREQNRVVFQMGTSDAERALAVARLVENDVAGIDVNMGCPKQYSTKGGMGAALLSDPKIEKILSTLVKGTRR  
PVTCKIRILPSLEDTLVLKRIERTGIAAIAVHGRKREERPQHPVSCEVIKAIADTLSIPVIANGGSHDHIQQYS  
DIEDFRQATAASSVMVARAAMWNPSIFLKEGLRPLEEVMQKYIRYAVQYDNHYTNTKYCLCQMLREQLESPQGRL  
LHAAQSSREICEAFGLGAFYEETTQELDAQARLSAKTSEQTGEPAEDTSGVIKMAVKFDRRAYPAQITPKMCLL  
EWCRRKLAQPVYETVQRPLDRLFSSIVTVAEQKYQSTLWDKSKKLAEQAAAIVCLRSQGLPEGRLGEESPSLHK  
RKREAPDQDPGGPRAQELAQPGLCKKPFVALGSGEESPLEGW

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**FIGURE 4586A**

CGGCTGCGGTTCTCTGGTGCTGCTCGGCGCGCGGCCAGCTTTTCGGAACGGAACGCTCGGCGTCGCGGGCCCCGCCC  
GGAAAGTTTGGCGTGGAGTCGCGACCTCTTGGCCCCGCGCGGCCCGGCATGAAGCGGCGTTGAGGAGCTGCTGCCG  
CCGCTTGCCGCTGCCGCCGCCGCCGCTGAGGAGGAGCTGCAGCACCCCTGGGCCACGCCGATGACTACTGCAAAC  
TGTGGCGCCACGACGAGCTCGACTTCAAACCTCGTCTTTGGCGAGGACGGGGCGCCGGCGCCGCCGCCCGGGC  
TCGCGGCCTGCAGATCTTGAGCCAGATGATTGTGCATCCATTTACATCTTTAATGTAGATCCACCTCCATCTACT  
TTAACCACACCACTTTGCTTACCACATCATGGATTACCGTCTCACTCTTCTGTTTTGTCACCATCGTTTTAGCTC  
CAAAGTCACAAAACTATGAAGGAATTGTGAGATTCTGAATCTAAATATAGCCCATTAGGTGGTCCCAAACCC  
TTTGAGTGCCCCAAGTATTCAAATTACATCTATCTCTCTAACTGTCAATGAAGATTAGATGCACATGAAGATGAC  
CTACAGATAAATGACCCAGAACGGGAATTTTTGGAAAGGCCTTCTAGAGATCATCTCTATCTTCTCTTGAGCCA  
TCCTACCGGGAGTCTTCTCTTAGTCCTAGTCCTGCCAGCAGCATCTCTCTAGGAGTTGGTTCTCTGATGCATCT  
TCTTGTGAATCGTTTTACATATTTATGATGATGTGGACTCAGAGTTGAATGAAGCTGCAGCCGATTTACCCTT  
GGATCCCCCTCTGACTTCTCTGGTGGCTCTCCAGGGGGCTGCCCTGGAGAAGAACTTGGCATCAACAGTATGGA  
CTTGACACTCATTATCACCCAGGCAATCTCTTGGCACTCTCTAGATCCAGTGTCACTGATGAGAATTGGCTG  
AGCCCCAGGCCAGCCTCAGGACCCTCATCAAGGCCACATCCCCCTGTGGGAAACGGAGGCACTCCAGTGCTGAA  
GTTTGTATGCTGGGTCCCTTTACCCCATCACTCACCTGTTCTTCCCTGAGTCACTCCCCAGGGGAAGTGTG  
ACAGAAGATACGTGGCTCAATGCTTCTGTCCATGGTGGGTGAGGCCTTGGCCCTGCAGTTTTTCCATTTAGTAC  
TGTGTAGAGACTGACATCCCTCTCAAAACAAGGAAAACCTTCTGAAGATCAAGCTGCCATACTACCAGGAAAATTA  
GAGCTGTGTTTCAATGACCAAGGGAGTTTATCACCAGCCCGGGAGACTTCAATAGATGATGGCCTTGGATCTCAG  
TATCTTTTAAAGAAAAGATTCAATGTGGTGAATGATTTCTTTTCAATTTTCCCTTACCTGGAGCAAACCAAAG  
CCTGGCCACACCCCTATATTTGCGACATCTTCACTTACCTCCACTAGACTGGCCTTACCTAGCTCATTTTGGACAA  
TGTGAAGTGAATAAGAGTGAACCTAAACTCATCATCGAGCCATTATGAAACTGAAGGTAGCCGAGGGGCA  
GTAAAAGCATCTACTGGGGGACATCTGTTGTGAAGCTCTGGGCTATAACGAAAAGCCAATAAATCTACAAATG  
TTTATTGGGACAGCAGATGATCGATATTTACGACCTCATGCATTTTACCAGGTGCATCGAATCACTGGGAAGACA  
GTCGCTACTGCAAGCCAAGAGATAATAATTGCCAGTACAAAAGTTCTGGAAATTCCTTCTTCTGAAAATAAT  
ATGTCAGCCAGTATTGATTGTGCAGGTATTTTGAAGTCCGCAATTCAGATATAGAACTTCGAAAAGGAGAACT  
GATATTGGCAGAAAAGATACTAGAGTACGACTTGTGTTTCTGTGTACACATCCACAGCCAGTGGAAGTCTCT  
TCTCTGCAGATAGCCTCTATACCCGTTGAGTGTCTCCAGCGGTCTGCTCAAGAACTTCTCATATTGAGAAGTAC  
AGTATCAACAGTTGTTCTGTAAATGGAGGTGATGAAATGGTTGTGACTGGATCTAATTTCTTCCAGAATCCAAA  
ATCATTTTTCTTGAAGGAGGACAAGATGGACGACCTCAGTGGGAGGTAGAAGGGAAGATAATCAGGGAAAAATGT  
CAAGGGGCTCACATTGTCTTGAAGTTCTTCCATATCATAACCCAGCAGTTACAGCTGCAGTGCAGGTGCATTT  
TATCTTTGCAATGGCAAGAGGAAAAAAGCCAGTCTCAACGTTTTACTTATACACAGTTTTGTATGAAGCAAGAA  
CACAGAGAAGAGATTGATTGTCTTCACTTCCATCTTTGCCTGTGCCTCATCTGCTCAGACCCAGAGGCCTTCC  
TCTGATTACGGGTGTTTACATGACAGTGTACTGTGAGACAGAGAAGTTTGATTGTCTCCATCCCAACATAT  
GCATCCATGGTGACCTCATCCCATCTGCCACAGTTGCAGTGTAGAGATGAGAGTGTAGTAAAGAACAGCATATG  
ATTCTTCTTCCAATTGTACACCAGCCTTTTCAAGTACACCAACACCTCCTGTGGGGTCTTCTATCAGCCTATG  
CAAATAATGTTGTGTACAATGGACCAACTTGTCTTCTTATTAATGCTGCCTCTAGTCAAGAATTTGATTAGTT  
TTGTTTACAGCAGGATGCAACTCTTCTGGTTTGTGAACTTTGGCTGTCAACCACTGTCTATCCATACCATTTTCT  
TCTTCAAATTCAGGCTCAACAGGACATCTCTTAGCCCATACACCTCATTCTGTGCATACCTTGCTCATCTGCAA  
TCAATGGGATATCATTGTTCAAATACAGGACAAAGATCTCTTCTTCTCCAGTGGCTGACCAGATTACAGGTGAG  
CCTTCTGTCTCAGTTACAACCTATTACATATGGTCTTACATTCAGGGTCTGCTACAACAGCTTCCCCAGCAGCT  
TCTCATCCCTTGGCTAGTTACCCGCTTCTGGGCCACCATCTCTCAGCTTACAGCCTATGCCTTACCAATCTCCT  
AGCTCAGGAAGTGCCTCATCACCGTCTCCAGCCACCAGAATGCATTCTGGACAGCACTCAACTCAAGCACAAAGT  
ACGGGCCAGGGGGTCTTCTGACCTTCATCCTTAATATGTCACAGTTTGTGTGATCCAGCGTCATTTCCACCT  
GATGGGGCAACTGTGAGCATTAAACCTGAACAGAAAGATCGAGAGCCTAACTTTGCAACCATTTGGTCTGCAGGAC  
ATCACTTTAGATGATGACCAATTTATATCTGACTTGGAAACACCAGCCATCAGTTTACAGCAGAGAAATGGCCTAAC  
CACAGTGTGCTCTCATGTCCAGCTCCTTCTGGAGAATCTAGAGGTGAACGAGATAATTGGGAGAGACATGTCCC  
AGATTTCTGTTTCCCAAGGAGCAGGGGTGAGCAGGAGGCTCCCTCCCGAGTCTGAGTCCCTGGATTTAGGAA  
GATCTGATGGGCTCTAACAGTGCTTACTGCAGCCTTGTGTCCACCACCAACTTCTCAGCATGTTTCTCTCCTTGG

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**FIGURE 4586B**

ACCTTGGGTTTCCAACCTCTGCAGCCTTCAGGTCTGGGGCCAGGAGTGGGACCCACCATTTGTGGGGAAAGTAGCA  
TTCCTCCACCTCAGGCCTTGGGTAGATTTGGCAAAGAAGCAGGAGCAGCATAGGCTGTTTGAGCTTTGGGGAAAT  
GAACTTTGCTTTTTATATTTAACTAGGATACTTTTATATGATGGGTGCTTTGAGTGGAATGCAGCAGGCTCTCT  
TGTTTCCGAGGTGCTGCTTTTGCAGGTGACCTGGTTACTTAGCTAGGATTGGTGATTTGTACTGCTTTATGGTCA  
TTTGAAGGGCCCTTTAGTTTTTATGATAATTTTTAAAATAGGAACTTTTGATAAGACCTTCTAGAAGCC



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**FIGURE 4587**

MTTANCGAHDELDFKLVF'GEDGAPAPPPPGSRPADLEPDDCASIYIFNVDPPPSTLTTPCLCLPHHGLPSHSSVLS  
PSFQLQSHKNYEGTCEIPESKYSPLGGPKPFECPSIQITSISPNC HQELDAHEDDLQINDPEREFLEPSPRDHLY  
LPLEPSYRESSLSPPASSISSRSWFS DASSCESLSHIYDDVDSELNEAAARFTLGSP LITSPGGSPGGCPGEETW  
HQQYGLGHSLSPRQSPCHSPRSSVTDENWLSRPASGPSSRPTSPCGKRRHSSAEVCYAGSLSPHHSPVPSPGHS  
PRGSVTEDTWLNASVHGGSGLGPAVFPPFQYCVETDIPLKTRKTS EDQAAILPGKLELCSDDQGSLS PARETSIDD  
GLGSQYPLKKDSCGDQFLSVSPFTWSKPKPGHTPIFRTSSLPPLDWPLPAHFGQCELKIEVQPKTHHRAHYETE  
GSRGAVKASTGGHPVVKLLGYNEKPINLQMF IG TADDRYL RPHAFYQVHRITGKTVATASQEII IASTKVLEIPL  
LPENNMSASIDCAGILKLRNSDIELRKGETDIGRKNTRVRLVFRVHIPQPSGKVL SLQIASIPVECSQRSAQELP  
HIEKYSINSCSVNGGHEMVVTGSNFLPESKII FLEKGQDGRPQWEVEGKI IREKCQGAHIVLEVPPYHNPAVTAA  
VQVHFYLCNGKRKKSQSQRFTYTPVLMKQEHREEIDLSSVPSLPVPHPAQTQRPSSDSGC SHDSVLSGQ RSLICS  
IPQTYASMVTSSHLPLQLQCRDESVSKEQHMI P SPIVHQPFQVTPTPPVGSSYQPMQTNVVYNGPTCLPINAASSQ  
EFDSVLFQQDATLSGLVNLGCQPLSSIPFHSSNSGSTGHLLAHTPHSVHTLPHLQSMGYHCSNTGQRSLS SPVAD  
QITGQPSSQLQPI TYGPSHSGSATTASPAASHPLASSPLSGPPSPQLQPM PYQSPSSGTASSPSPATRMHSGQHS  
TQAQSTGQGGLSAPSS LICHSLCDPASFPDPGATVSIKPEPEDREP NFATIGLQDITLDDDQFISDLEHQPSGSA  
EKWPNH SVLSCPAPFWRI

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**FIGURE 4588A**

GGCACGAGGGCACCATTGGATGCTTACTTTTCAGGTGAGCAGGACCCAGCCTGACTTGCCAGCTACCACTTATGAT  
TCAGAGACTAGGAATCCTGTATCTGAAGAGTTGCAGGTGTCTAGTAGTTCTGATTCTGACAGTGACAGCTCTGCA  
GAGTATGGAGGGGTTGTTGACCAGGCAGAGGAATCTGGAGCTGTTCATTTTAGAAGAGCAACTAGCAGGTGTCTCA  
GCAGAGCAAGAAGTTACATGTATCGATGGAGGCAAGACCCTCCCCAAACAGCCATCTCCCCAGAAGTCTGAGCCT  
CTGCTACCTTCTGCTTCTATGGATGAGGAAGAAGGGGACACTTGTACAATATGTCTGGAACAGTGGACCAATGCT  
GGGGACCACCGGCTCTCAGCATTACGCTGTGGGCATCTCTTTGGGTATAGGTGCATTTCCACGTGGCTTAAAGGA  
CAAGTACGAAAAATGTCCCCAGTGCAACAAGAAAGCCAGGCACAGTGACATTGTCTGCTCTTTATGCCCGAACCTTG  
AGAGCTTTGGACACTAGTGAACAGGAGCGCATGAAAAGTTCCCTACTGAAGGAACAGATGCTAAGGAAACAGGCC  
GAGTTAGAATCAGCACAGTGCCGACTCCAAGTGCAGGTCTCTACTGATAAGTGCCTAGGCTTCAAAGGCGTGTT  
CAGGACTTGCAAAAACCTTACGTACATCAAAGTCAGAATTTACAGCAACCCAGGGGCTCCCAAGCATGGGTCTTG  
AGCTGCTCACCTTCCAGCCAGGGCCAGCACAAAGCACAAGTACCCTTCCAAAAGACCTTACAGTATCTCAGGCA  
GGAACTGCCGGATCATGGCATACTGTGATGCTCTGAGCTGCCTGGTGATATCACAGCCTTCTCCTCAGGCCTCT  
TTTCTTCCAGGCTTTGGTGTTAAGATGTTGAGTACTGCCAACATGAAGAGCAGTCAGTACATTCGGATGCATGGC  
AAACAGATCCGTGGACTGGCGTTTAGCAGTTACCTCAGAGGCTTGCTACTCTCTGCTTCCCTAGACAACACTATT  
AACTGACCAGCCTGGAGACAAATACCGTGGTCCAGACTTATAATGCTGGACGCTCTGTCTGGAGCTGTTGCTGG  
TGTCTTGATGAGGCTAACTACATCTATGCTGGACTGGCCAATGGTTCAATTCTGGTATATGACGTGCGAAACACG  
AGCAGTCATGTGCAGGAGTTAGTAGCTCAGAAAGCCAGATGCCCACTGGTCTCCCTGTCATACATGCCAGAGCT  
GCCTCAGCTGCATTTCCATATGGTGGGGTGTCTGGCTGGAACCTTGGAGGATGCTTCATTCTGGGAACAGAAAATG  
GACTTTTCTCATTGGCCTCATGTGCTGCCCTTGGAGCCAGGGGGCTGCATAGACTTTCAGACAGAGAACAGCTCC  
CGGCACTGTCTTGACCTACAGGCCTGATAAAAATCACACCACCATAACGAAGTGTCTGATGGAAATGTCCTAC  
CGACTGGATGACACTGGAAATCCAATCTGCTCCTGCCAGCCTGTACATACATTTTTTGGAGGACCTACTTGCAAA  
CTATTGACCAAAAAATGCCATTTTCCAAAGCCCAGAGAATGATGGCAACATCCTGGTGTACTGGGGATGAAGCA  
GCAAAATCTGCCCTGCTGTGGGATGCTGCCAGTGGCTCGTTGCTCCAGGACCTACAGACCGATCAGCCTGTGTTG  
GACATCTGCCCATTGAGGTGAACCGTAACAGCTACTTGGCTACCTTAACAGAGAAGATGGTCCACATCTATAAG  
TGGGAGTCACTGTGGTCTCGAAAACCTTGAAGGCATGCTGCTGGTTAGATGTTGTTGCTAGCGCCTAGCAGCCCC  
AAGCAAGATCCCTGTTTATTGTCTGCAGTCTAGAACATTGGGAATCATGGTTTGTGTTGCATTAGTATGATTCTAG  
GACCTTAGGTCACTGAGACACTACAGATTGTGTATCTGTTATGTCCACTAAAAGAGTAATTGATGGGTACTTTAT  
CTACATTATCCATTTCTTGGGTTTAAAGCCTTCATTAACCATTATTGTATGTTGGAAATCTTATTTTCTTTATT  
TTCTGTGTGACTTTCTGGACCTTAGAGAGTGTCTCTCATCATCTAGGATGTGAGTGGGCATCAAGCATTTTCTG  
GGGAATATGACATCCCATCTGAGTTGTCTGTCACTTAAGTATCCTTGAAGGGACTAACCATCGTCTTGGTACTG  
ATTTGATGCAACGTAGATGTAAAAGAGTATTATTAGTTGAACACAAGAGGGCACTGTAGAACCTTGTGTCCGGT  
TTATTTCTGACCTTGAAGGCTGACAATCTTTTAGTAACCTTGTCTCATCTCCACACAAGTGTGTGATAGCACCT  
GGGTGTGCTTTGTGGCAATAACACTTGTGTTCCAGGTGTGAAGTGTGGGACATTGGCAGGCCCAGTGATGGAAG  
CAGCTAGTGAACGATTCCCTTTGCTAATGCCTAGTGCATTAAAGTTTATTGCTTTGCGAAAGGTAAGGAAAGAGGC  
CAGTTGTTTGGAGCGGTGGGGAAGATTTGTTTTTCTAGCCAGCTTAGGATCTCAGGATTGGTTTTATCCAAGCT  
AGTGCTTTGAAGAACTATCTCTTGCCAGGAAAAGATGAGTGATAGGTCAAAGCTTTTACTTGAGTCTCCCTTA  
GTGTCAGAGATCAGGAGAAAAGACATAAGAGAATTTACAAAAGCTATTTCAGACTGCTATTGAAAACATGAGAAGA  
ACTTGTCTCCCATTTTGGAGAGTTCCTATCTAAATAAAGCCAATTCCTCAGACTGAGGGGCTGTTCTTAAGTGTTT  
TTTATACATTCCAGTTATCCAGTTAAAGCCTTCCCCATGTGAAGCTGATGTTTGATTCCAGTTTCTTTGATTG  
CCTCCCTAACCTTTTCTAGGGCTCAGTTTGTATTTCTTTGCCTTGCCTCAGACTACTTTGCCAACCCACTTCCAC  
AACAGAATATGCTTCAAGATGTGGGCAGGTGCTGCTGTTTATGGGAGAAAATGGCTTAAACAGTCTGATTTTC  
TCAAATGATTATTGAAGAGTTGTTATCGTTTTTATTATAAAACACTTCTGACCTGTCAATTCAAGAGCTGTTTCT  
AGGATCTTTCTCTCCGGCAAGGGGTTGTTGCACTAGATTTCCCCAGAGTTCCAAGTTCTAGTTGTGCCTTTTAAT  
GACCTTTAATATTTTAGGACATAATTTTTCTTTTTTAAATTTTTTGTAGAAATAGATGTTTCACTACGTTG  
TCCAGGCTGGTCTTGGACTCCTGGCCTCAAGCAATCCTCCACCTCAGCCTCCTAAAGTGCCAAAATTATAGGCG  
TGAGCCACTGCACCCGGCCCCIATTTGAAGACGTCTTTTGTAAAAGCTAGCTTCTAGAACCTGAGAAAAGCTCTT  
TTCTCAGAGGAGATACTCCTTTTGATATGTTAATGATTAAAGAGTGGTTGCCAGGCCTAGTTTCACTGGCAGAAT  
AGGATTGGAATTA AAAAGCAGAACTCATCTGGCTTCAGCAGATTGCCACCAAGAGGATACAGGTGGTCAGGTCCT

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**FIGURE 4588B**

GGCTGGCTTTGTCTTTGGGCCTGGGCAGGCTTAGGATTTGACTTTCTTTGAAGTACCTGATGCTGATTGATTCCA  
CTAATAGTAGGAAGCAAGAGACTTAAGTATGAGGGACGTTATGTGAATCTTAAGTCTTACCAGTCCTTGCATTAG  
TACATTAAATTTGGATGTTTTGGAAGCAAATTCATACGATCGTGAGTGATTTCTCCAAAGAAAAAGCCTTGTC  
CAGCCTGACCAACATGGTGAAACCCCATCTCTACTAAAAATACAAAAATTAAGTGGGTGCAGTGGTGCGCATGCC  
TGTAGTCCCAGCTACTTGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCCTGGGAGGCAGAGGTTGCAGTGAGTCG  
AGATCGCGCCACTGCACTCCAGCCTCGGTGACAGAGCAAGACTCCATCTCAAAAAAAAAAAAAAAAAAAAAAA  
AAA

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**FIGURE 4589**

MKSSLLKEQMLRKQAELESAQCRLQLQVLTDKCTRLQRRVQDLQKLTSHQSQNLQQPRGSQAWVLS CSPSSQGGH  
KHKYHFQKTFTVSQAGNCRIMAYCDALSCLVISQPSQASFLPGFGVKMLSTANMKSSQYIPMHGKQIRGLAFSS  
YLRGLLLSASLDNTIKLTSLETNTVVQTYNAGRPVWSCWCLDEANYIYAGLANGSILVYDVRNTSSHVQELVAQ  
KARCPLVSLSYMPRAASAAFPYGGVLAGTLEDASFWEQKMDFSHWPHVLPLEPGGCIDFQTENSSRHCLVTYRPD  
KNHTTIRSVLMEMSYRLDDTGNPICSCQPVHTFFGGPTCKLLTKNAIFQSPENDGNILVCTGDEAANSALLWDAA  
SGSLLQDLQTDQPVL DICPFEVNRNSYLATLTEKMHVHIYKWE

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**FIGURE 4590**

ATGAACTTCACCACTCGCTCCACCTTCTCCACCAACTACCGGTCCCTGGGCTTTGTCCAGGCGCCAGCTACAGT  
GCCCCGCCAGTCAGCAGCATGGCCAGCGTCTATGCAGGCACCAGGGGCTCTGGTTCCTGGATCTCCATGTCCCAC  
TCCGCCAGCTTCTGGGGCGGCATGGGGTCTGGGGGCCTGTCCGCGGGGATGGCTGGGGGTCTTGCAAGAATGGGA  
GGCATCCAGAACAAGAAGGAGACCATGCAAAGCCTGAAGTACTGCCTGACCTCCTACCTGAACACAGTGAGGAAC  
CTGGAGATGGAGAAGCTGGAAGCTAGAGAGCAAAATCCGGGAGCACCTGGAGAAGAAGGGACCCAGTTCAGAGAC  
TGGAGCCGTTACTTCCAGACCATCAAGGACCTGAGGGCTCAGATCTTCGCAAATACTGTGGACAATGCCTGCATC  
GTTCTGCAGATTGACAGTGCCCGTCTTGACAGCTGATGATTTTAGATCTGTGGAGAATGACATCCATGGGCTCTGC  
AAGGTCATTGATGACACCACTGTCACTTGGCTGCAGCTGGAGACAGAGATCAAGGCTCGCAAGGAAGAGCTGCTC  
TTCATGAAGAAGAACCACGGAGAGGAAGTAAAAGGCCTACAAGCCCAGATTGCCAGCTCTGGGTTGACCTTGGAG  
GACCTCGCCAAGATCATGGCAGACATCTGGGCCCAATATGACAAGCTGGCTCGGAAGAACAGAGAGGAGCTGGAC  
AAGTACTGGTCTCAGCAGATTGAGGAGAGCACACGGTGGTCACCACGCAGTCCGTCAAGGTTGGAGCTGCTGAG  
ACGACACTCACGGAGCTGAGATATACAGTCCAGTCTTGGAGACTGACCTGGACTCAATGAGAAAATCTGAAGGCC  
AGCTTGGAGAACAGCCTGAGGGAGGTGGAGGCCCGCTACACCCTGCAGATGGAGCAGCTCAACGGGGATCCTGCTT  
TACCTGGAGTCAGAGCTGGCACAGACCCGGGCAGAGGGTCTTCTTACTGATGTGTTGCTCTTCTTCATGGCTC  
GTGAAAATATTAGAGTCATCCAAGATTCTAAGTTCCTGACTCAGAATCTTACTGTTGTGAACCTTTACACCCAG  
GTTTGGAGACAGAAAGGAGCACCGCCAAGTGAGGCAGAGCAGTCTCAGAAACATAGGAAAATGGTGGGAAGAGAG  
ATCAGCAACGTAACTGGGTGTCAAGAAAACATACCGAGATTGAAGCCATCCACTTCTGCAGGAACACCGAAAAG  
AAAGGTACAACGCTTGGGGAAAGACTGGATTTCATTAGGGACAGTGACAATACTGTTTGACATAG

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**FIGURE 4591**

MNFTTRSTFSTNYRSLGFVQAPSYSARPVSSMASVYAGTRGSGSWISMSHSASFWGGMGSGGLSAGMAGGLARMG  
GIQNKKETMQSLKYCLTSYLN TVRNLEMENWKLESKIREHLEKKGPQFRDWSRYFQTIKDLRAQIFANTVDNACI  
VLQIDSARLAADDFRSVENDIHGLCKVIDDTSVTWLQLETEIKARKEELLFMKKNHGEEVKGLQAQIASSGLTLE  
DLAKIMADIWAQYDKLARKNREELDKYWSQQIEESTTVVTTQSVKVGAAETTLTELRYTVQSLETDLDSMRNLKA  
SLENSLREVEARYTLQMEQLNGILLYLESELAQTRAEGSFLLMCCSSSWLVKTIRVIQDSKFLTQNLTVVNLYTQ  
VWRQKGAPPSEAEQSQKHRKMVGREISNVNWVSRKHTEIEAIIHFCRNTEKKGTTLGERLDFIRSDNTCLT

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**FIGURE 4592A**

ATAATGGCCGCTTTCAAGGTGTGGATTTTGGCTCCTTGAGCCTGTCTGAGCGAGGGGTGGCAGCGCCGGCGCCCC  
AGAATCCGGGACAGAAGGGTCCCAAGAGTCGCGCTTGGTGAGAGAAATCCAGATCCTGTGATCGGGGACACCAG  
TGAGGATGCCTCGATCCATCGATTGGAAGGCACTGATCTGGACTGTCTAGGTTGGTGGTCTTATTTGCAAGTCCAA  
AAGTGCGGCCAGCGAGCAGCATGTCTTCAAGGCTCCTGCTCCCCGCCCTTCATTACTGGGACTGGACTTGCTGGC  
TTCCCTGAAACGGAGAGAGCGAGAGGAGAAGGACGATGGGGAGGACAAGAAGAAGTCCAAAGTCTCCTCTACAA  
GGACTGGGAAGAGAGCAAGGATGACCAGAAGGATGCTGAGGAAGAGGGCGGTGACCAGGCTGGCCAAAATATCCG  
GAAAGACAGACATTATCGGTCTGCTCGGGTAGAGACTCCATCCCATCCGGGTGGTGTGAGCGAAGAGTTTTGGGA  
ACGCAGTCGGCAGAGAGAGCGGGAGCGGAGGGGAACATGGTGTCTATGCCTCGTCCAAAGAAGAAAAGGATTGGAA  
GAAGGAGAAATCGCGGGATCGAGACTATGACCGCAAGAGGGACAGAGATGAGCGGGATAGAAGTAGGCACAGCAG  
CAGATCAGAGCGAGATGGAGGGTCAGAGCGTAGCAGCAGAAGAAATGAACCCGAGAGCCCACGACATCGACCTAA  
AGATGCAGCCACCCCTTCAAGGTCTACCTGGGAGGAAGAGGACAGTGGCTATGGCTCCTCAAGGCGCTCACAGTG  
GGAATCGCCCTCCCCGACGCTTCTATCGGGATTCTGAGCGGAGCCATCGGCTGTCCACTCGAGATCGAGACAG  
GTCTGTGAGGGGCAAGTACTCGGATGACACGCTCTGCCAACTCCCTCCTACAAATATAACGAGTGGGCCGATGA  
CAGAAGACACTTGGGGTCCACCCCGCTGTGCCAGGGGCCGAGGAAGACGTGAGGAGGGCGAAGAAGGAATTTT  
ATTTGACACGGAGGAGGAGCGGCAGCAGTGGGAAGATGACCAGAGGCAAGCCGATCGGGATTGGTACATGATGGA  
CGAGGGCTATGACGAGTTCCACAACCCGCTGGCCTACTCCTCCGAGGACTACGTGAGGAGGCGGGAGCAGCACCT  
GCATAAACAGAAGCAGAAGCGCATTTTCAAGCTCAGCGGAGACAGATCAATGAGGATAACGAGCGCTGGGAGACAAA  
CCGATGCTCACCAGTGGGGTGGTCCATCGGCTGGAGGTGGATGAGGACTTTGAAGAGGACAACGCGGCCAAGGT  
GCATCTGATGGTGCACAATCTGGTGCTCCCTTTCTGGATGGGCGCATTGTCTTACCAAGCAGCCGGAGCCGGT  
GATTCCAGTGAAGGATGCCACTTCTGACCTGGCCATCATTGCTCGGAAAGGCAGCCAGACAGTGCAGGAAGCAG  
GGAGCAGAAGGAGCGCAAGAAGGCTCAGCACAAACACTGGGAACTGGCGGGGACCAAACCTGGGAGATATAATGGG  
CGTCAAGAAGGAGGAAGAGCCAGATAAAGCTGTGACGGAGGATGGGAAGGTGGACTACAGGACAGAGCAGAAGTT  
TGCAGATCACATGAAGAGAAAGAGCGAAGCCAGCAGTGAATTTGCAAAGAAGAAGTCCATCCTGGAGCAGAGGCA  
GTACCTGCCCATCTTTGCAAGTGCAGCAGGAGCTGCTCACTATTATCAGAGACAACAGCATCGTGATCGTGGTTGG  
GGAGACGGGGAGTGGTAAGACCACTCAGCTGACGCAGTACCTGCATGAAGATGGTTACACGGACTATGGGATGAT  
TGGGTGTACCCAGCCCCGGCGTGTAGCTGCCATGTCAGTGGCCAAAGAGAGTCAAGTGAAGAGATGGGGGGAAACCT  
TGGCGAGGAGGTGGGCTATGCCATCCGCTTTGAAGACTGCACTTCAGAGAACACCTTGATCAAATACATGACTGA  
CGGGATCCTGCTCCGAGAGTCCCTCCGGGAAGCCGACCTGGATCACTACAGTGCCATCATCATGGACGAGGCCCA  
CGAGCGCTCCCTCAACACTGACGTGCTCTTTGGGCTGCTCCGGGAGGTAGTGGCTCGGCGCTCAGACCTGAAGCT  
CATCGTCACATCAGCCACGATGGATGCGGAGAAGTTTGTGCTGCTTTTTTGGGAATGTCCCCATCTTCCACATCCC  
TGGCCGTACCTTCCCTGTTGACATCCTCTTCAAGCAAGACCCACAGGAGGATTACGTGGAGGCTGCAGTGAAGCA  
GTCCTTGCAGGTGCACCTGTGCGGGGGCCCCCTGGAGACATCCTTATCTTCAATGCCTGGCCAAGAGGACATTGAGGT  
GACCTCAGACCAGATTGTGGAGCATCTGGAGGAAGTGGAGAAGCGCGCTGCCCTGGCTGTGCTGCCCCATCTACTC  
TCAGCTGCCTTCTGACCTCCAGGCCAAAATCTTCCAGAAGGCTCCAGATGGCGTTCCGAAGTGCATCGTTGCCAC  
CAATATTGCCGAGACGTCTCTCACTGTTGACGGCATCATGTTTGTATCGATTCTGGTTATTGCAAATTAAGGT  
CTTCAACCCAGGATTGGCATGGATGCTCTGCAGATCTATCCCATAGCCAGGCCAATGCCAACCAGCGGTCAGG  
GCGAGCCGGCAGGACGGGCCAGGTCAGTGTTCAGGCTCTACACCCAGAGCGCCTACAAGAATGAGCTCCTGAC  
CACCACAGTGCCCGAGATCCAGAGGACTAACCTGGCCAACGTGGTGTGCTGCTCAAGTCCCTCGGGGTGCAGGA  
CCTGCTGCAGTTCCACTTCATGGACCCGCCCCCGGAGGACAACATGCTCAACTCTATGTATCAGCTCTGGATCCT  
CGGGGCCCTGGACAACACAGGTGGTCTGACCTCTACCGGGCGGCTGATGGTGGAGTTCCCGCTGGACCCCTGCCCT  
GTCCAAGATGCTCATCGTGTCTGTGACATGGGCTGCAGCTCCGAGATCCTGCTCATCGTTTCCATGCTCTCGGT  
CCCAGCCATCTTCTACAGGCCCAAGGGTCGAGAGGAGGAGAGTGATCAAATCCGGGAGAAGTTTCGTGTTCTGA  
GAGCGATCATTTGACCTACCTGAATGTTTACCTGCAGTGGAAGAACAATAATTACTCCACCATCTGGTGTAAACGA  
TCATTTTATCCATGCTAAGGCCATGCGGAAGGTCCGGGAGGTGCGAGCTCAACTCAAGGACATCATGGTGCAGCA  
GCGGATGAGCCTGGCCTCGTGTGGCACTGACTGGGACATCGTCAGGAAGTGCATCTGTGCTGCCTATTTCCACCA  
AGCAGCCAAGCTCAAGGGAATCGGGGAGTACGTGAACATCCGCACAGGGATGCCCTGCCACTTGACCCCCACAG  
CTCCCTTTTTTGAATGGGCTACACCCAGATTACATAGTGTATCACGAGTTGGTCATGACCACCAAGGAGTATAT  
GCAGTGTGTACCGCTGTGGACGGGAGTGGCTGGCGGAGCTGGGCCCCATGTTCTATAGCGTGAAACAGGCGGG

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**FIGURE 4592B**

CAAGTCACGGCAGGAGAACCGTCGTCGGGCCAAAGAGGAAGCCTCTGCCATGGAGGAGGAGATGGCGCTGGCCGA  
GGAGCAGCTGCGAGCCCGGCGGCAGGAGCAGGAGAAGCGCAGCCCCCTGGGCAGTGTCTAGGTCTACGAAGATCTA  
CACTCCAGGCCGAAAAGAGCAAGGGGAGCCCATGACCCCTCGCCGCACGCCAGCCCGCTTTGGTCTGTGAGCTGA  
GGCTGTCCCCAGAGAGGATGGCAGCAGGTATTGGGTCTCAGCCTTCTGGCGGGAGCCCTGAGGCTGCGGACAAA  
GCCCTTTCATCTGAGGACTTTCATCTGTGCATATCACGGCCCCCAGGGCAGTTCCTGCTGGACCAGACTCTCTG  
GCAGAGGAGGTGGAGTTCTTCCATGCAGGAGCACGGCATGGCGGGAGCGGGGCTGCAGAGTATCCGAGGTGCTGC  
CGGGGCAGCGGGAGGTGGCTGGACCCATCGCATCTAAACTGGCCCAGGACACTTGGTGTATGCGTGACTTGGCT  
GTGGCTGTCTTTTTTAATCCTTGTGTAAAGCAGCAAAAAGACCTAAAGGGAATTGTAATTTGGTTATAATTCAG  
GATTTGAAATAAATTTATTATTGTAAACAAAAAAAAAAAAAAAAAAAAA



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**FIGURE 4593**

MGDTSEDASIHRLGTDLDCQVGGLICKSKSAASEQHVFKAPAPRPSLLGLDLLASLKRREREKDDGEDKKKSK  
VSSYKDWEESKDDQKDAEEEGDQAGQNIRKDRHYRSARVETPSHPGGVSEEFWERSRQRERERREHGVYASSKE  
EKDWKKEKSRDRDYDRKDRDERDRSRHSSRSERDGGSSERSRRNEPESPRHRPKDAATPSRSTWEEEDSGYGSS  
RRSQWESPSPTPSYRDSERSHRLSTRDRDRSVRGKYSDDTLPPTPSYKYNEWADDRRLGSGTPRLSRGRGRREEG  
EEGISFDTEERQQWEDDQRQADRDWYMMDEGYDEFHNPLAYSSEDYVRREQLHLKQKQKRISAQRQINEDNE  
RWETNRMLTSGVVHRLEVDEDFEEDNAAKVHLMVHNLVPPFLDGRIVFTKQPEPVIPVKDATSDLAI IARKGSQT  
VRKHREQKERKKAQHKHWELAGTKLGDIMGVKKEEEDKAVTEDGKVDYRTEQKFADHMKRKSEASSEFAKKKSI  
LEQRQYLP IFAVQQELLTIIRDNSIVIVVGETGSGKTTQLTQYLHEDGYTDYGMIGCTQPRRVAAMSVAKRVSEE  
MGGNLGEEVGYAIRFEDCTSENTLIKYM TDGILLRESLREADLDHYS AIIMDEAHERSLNTDVLFGLLREV VARR  
SDLKLIVTSATMDAEKF AAF FGNVPIFHIPGRTFPVDILFSKTPQEDYVEAAVKQSLQVHLSGAPGDILIFMPGQ  
EDIEVTS DQIVEHLEEL ENAPALAVLP IYSQLPSDLQAKIFQKAPDGVRKCIVATNIAETS LTVDGIMFVIDSGY  
CKLKVFNPRI GMDALQIYPI SQANANQSRGRAGRTGPGQCFLYTSAYKNELLTTTVPEIQRTNLANVVLLLKS  
LGVQDLLQFHFM DPPPEDNMLNSMYQLWILGALDNTGGLTSTGRLMVEFP LDPALSKMLIVSCDMGCSSEILLIV  
SMLSVP AIFYR PKGEEESDQIREKF AVPE SDHLTYLNVYLQWKNNNYSTIWCNDHFIHAKAMRKVREVRAQLKD  
IMVQQRMSL ASCGTDWDIVRKCICAAYFHQA AKLKGIGEYVNIRTGMPCHLHPTSSLFGMGYTPDYIVYHELVMT  
TKEYMQCVTAVDGEWLAELGPMFYSVKQAGKSRQENRRRAKEEASAMEEEMALAEEQLRARRQEQEKRSPLGSVR  
STKIYTPGRKEQGEPMTPRRTPARFGL

ATTGGGCTGTTGAGCGGGGCCGACCGACGGCCAGGAGTTCTTTTCTGCGCTTGTGCGTTTCTGTTCTGGTTTC  
CTTCCCGCTAGCGGGGCCACGAGGGTTGCTAGGCAACAGCCCCTGGGTGACTTGGTCTTAGGGTCTGTCCGGCT  
TGGGGCTGATGAAAGGAGCTGTCCGCGCCCGGGCTCTTCCGAGAAGTGGTTGCTGACAGCCACAAAGTGAAAGGG  
AGTGAGGCGGCGTGGACGAGTAAGGAGTGACAGTGAGGATTACATTGGGTTATTTCAAGATGAGCTTCCTACT  
GCCCAAGCTGACTAGCAAAAAGGAAGTAGACCAGGCGATAAAAAGTACTGCTGAGAAGGTGTTGGTTCTCAGGTT  
TGGGAGAGATGAAGATCCTGTCTGTCTGCAGCTAGATGATATTCTTTCTAAGACCTCTTCTGACTTAAGTAAAA  
GGCTGCTATATACCTGGTGGATGTGGACCAAACGAGTTTATACACAGTATTTTGACATCAGTTATATTCCATC  
TACTGTCTTTTTCTTCAATGGGCAGCATATGAAAGTGGATTATGGATCTCCAGATCACACTAAGTTTGTGGGAAG  
CTTCAAACCAAACAAGACTTCATAGATTTGATTGAAGTAATCTATCGAGGAGCAATGAGGGGGAAGCTTATTGT  
CCAAAGTCCTATTGATCCCAAGAATATTCCCAAATATGACCTTCTCTATCAAGACATTTAGTACATTAATTGCTG  
TCAAAGATGAAGAAGAAGGCACATCTTGACACAGTACCTGAATCCAGCTGTGCTGTGTTTCTGGAGTCCTTTGGA  
AACATGTGTCCCAGAGGAGAAGAGGTTGACTTGCGTGTAGAAAACCGGCCCTGAGGAAAAGACCCCACTGGT  
TCTCTGATGACCTGGGATGCCTAACTGTCTACTCCCTGCAAGCCTCAGAGCAGCCAAGTCATTGGTGTTCATTTT  
CCCCACAGTGATTTTTGTAACTTCTCTTTCTAATGTTTTCTTTATCCCTTTAATACAGAACCCTCCCAAACATT  
GGCTAGTACAACCTTGATTTTCATCATGTTCAATTGATACACAAGTGAAGTGAAGTCACTTCCCATAGAAGCAAA  
AGTACTTATTTTCTACCCTAGCTGGGTGCATGTGTGTGCACACACACACACACACACACCCCCACACCCCTTTGC  
CGGTTCTCTGACTCATACATCCCTCGTGCTTTCCCATCTCCAGTCTGTATTACTGTAGGTTCTCTTCAAATAATT  
AATTGAGCAGACAAGTTTGTTTTATTTTGGAGCCTTTTTGGCTCTGGCTTTTAAACATTGTCTGGTTGGCTCAT  
TTAATTTTTTTTTTTTTTTTTTGGAGACCGAGTCACTCTTGTCAACCAGGCTGGAGTGCAGTGGCGCGATCTCGGCTC  
ACTGCAAGCTCCACCTCCTGGGTTTCATGCCATTCTCCTGCTTCAGCCTCCTGAGTAGCTGGGACTACAGGCGCCC  
GCCACCATGCCCAGCTAATTTTTTTGTATTTTTATAGAGGCGCAGTTTCACCGTGTTAGCCAAGATGGTCTCGATC  
TCCTGACCTCGTGATCTGCCCTCCTCAGCCTCCCAGGTGCTGGGATTATAGGCGTGAGCCACCGCGCGCACCCCA  
TTAATTATTTTTTATGTTATAAAATTTAATATGGAAGTGAGAATTTGAACCTTACCATCCACCACTCTATTCT  
AGGTAAAACAATGAATGAGCCACCTTAGCAGGAGCAGATTTTCCAGAAGCTGCTGCCTCTTCTGAGGCAGAA  
AATTGGATTACTAAGGCTCAAAACTAAAAGAGATGTCAGCATTGTTGGATAGAAATGTCACCTATATGGGATTTG  
CCTGTTTTAATAACTTTGTAAAGGAATTCTTGCTCTTCTAGGGGTGCCTGGCGCAACCGTGGGCAAGTTACTGCTC  
CTCTTTAAACCTCGTGGTGTTATTGAAACAGATTTATTAGAAGGAGAGGGTAGGTGCAGAGCTGGAGAGCCATG  
GGTGAGGCAGCTTGTGACCTGCCTAGCAGCCGCTGACCACCTCTCCAACAGAAGCCTAGTCTGTTTCAGAGCAGC  
ACTGTCACCTGCAAGTCCAGCCCCCTTTGCCAGGGGCTCCATTCCACCCCTTTCTGTCAGGGAGGGGTGCCATGAG  
TCTTGCTTTTGGCTCATAACAGGAGAGAGGGAAGGCTGCCAGGCACTGCTTGTATCCCTGCTGATAAGAGGAGGGA  
GTCACCTCCAGGAATAAGACAAAAGGAGAGGAGGAGGCCATCACCTCTGGCCTCTTCCATCGTACACTTCTGTCT  
CTGGTTTAATCATGATGCATGGAGCTACAACAGCCATCTTAGGTCCCCGAGGTGCCAGCATCACGTAAACATC  
GATATGCTAAGAAGAACAAAAGAGCCCAATCTCTGATGTTATTGAGCTCCTGCATGAAGTCTGGACCTGCCTGC  
CTCAGACTTCTGTGAAAGAATAAAATTTCTTTTTGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4595**

MSFLLPKLTSKKEVDQAIKSTA EKVLVLRFG RDEDPVCLQLDDILSKTSSDLSKMAAIYLV DVDQTAVYTQYFDI  
SYIPSTVFFFNQGHMKVDYGSPDHTKFVGSFKTKQDFIDLIEVIYRGAMRGKLIVQSPIDPKNIPKYDLLYQDI

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**FIGURE 4596**

CTCTTCCAGAGGCAAGACCAACCAAGATGAGTGCCCTGGGAGCTGTCATTGCCCTCCTGCTCTGGGGACAGCTTT  
TTGCAGTGGACTCAGGCAATGATGTCACGGATATCGCAGATGACGGCTGCCCCGAAGCCCCCGAGATTGCACATG  
GCTATGTGGAGCACTCGGTTGCTACCACTGTAAGAACTACTACAACTGCGCACAGAAGGAGATGGAGTATACA  
CCTTAAATGATAAGAAGCAGTGGATAAATAAGGCTGTTGGAGATAAACTTCCTGAATGTGAAGCAGATGACGGCT  
GCCCCAAGCCCCCGAGATTGCACATGGCTATGTGGAGCACTCGGTTGCTACCACTGTAAGAACTACTACAAAC  
TGCGCACAGAAGGAGATGGAGTGACACCTTAAACAATGAGAAGCAGTGGATAAATAAGGCTGTTGGAGATAAAC  
TTCCTGAATGTGAAGCAGTATGTGGGAAGCCCAAGAATCCGGCAAACCCAGTGCAGCGGATCCTGGGTGGACACC  
TGGATGCCAAAGGCAGCTTTCCCTGGCAGGCTAAGATGGTTTTCCACCATAATCTCACCACAGGTGCCACGCTGA  
TCAATGAACAATGGCTGCTGACCACGGCTAAAAATCTCTTCCTGAACCATTGAGAAAATGCAACAGCGAAAGACA  
TTGCCCCTACTTTAACACTCTATGTGGGGAAAAAGCAGCTTGTAGAGATTGAGAAGGTTGTTCTACACCCTAACT  
ACTCCCAGGTAGATATTGGGCTCATCAAACCTCAAACAGAAGGTGTCTGTTAATGAGAGAGTGATGCCCATCTGCC  
TACCTTCAAAGGATTATGCAGAAAGTAGGGCGTGTGGGTTATGTTTTCTGGCTGGGGGCGAAATGCCAATTTTAAAT  
TTACTGACCATCTGAAGTATGTCATGCTGCCTGTGGCTGACCAAGACCAATGCATAAGGCATTATGAAGGCAGCA  
CAGTCCCCGAAAAGAAGACACCGAAGAGCCCTGTAGGGGTGCAGCCATACTGAATGAACACACCTTCTGTGCTG  
GCATGTCTAAGTACCAAGAAGACACCTGCTATGGCGATGCGGGCAGTGCCTTTGCCGTTACGACCTGGAGGAGG  
ACACCTGGTATGCGACTGGGATCTTAAGCTTTGATAAGAGCTGTGCTGTGGCTGAGTATGGTGTGTATGTGAAGG  
TGACTTCCATCCAGGACTGGGTTGAGAAGACCATAGCTGAGAACTAATGCAAGGCTGGCCGGAAGCCCTTGCTG  
AAAGCAAGATTTGAGCCTGGAAGAGGGCAAAGTGACGGGAGTGGACAGGAGTGGATGCGATAAGATGTGGTTTG  
AAGCTGATGGGTGCCAGCCCTGCATTGCTGAGTCAATCAATAAGAGCTTTCTTTTGACCCA

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**FIGURE 4597**

ATGCTGTCTGTGTGTGTCTCCGCGGCCGTAGCCCGTGACCTCACTCGTAAGGAAGGAGGTATAGTGAAGAGGACA  
GGAACCATTTGTGGACGTTCCAGTCGGTGAGGAGCTGTTGGGTCGTGTAGTTGATGCCCTTGGAATGCTATTGAT  
GGAAAGGGTCCAATGGGTTCCAAGACCCATAAAATCATTTCCTCGAACTTCAGTGTGGGAACCAATGCCGACTGGC  
ATTAAGGCTGTGGATAGCTTGGTGCCAATTGGTCGTGGTCAGCATGAGCTCATTATTGGTGACCGAAGGACTGGG  
AAAACCTCAATTGCTATTGACACAATCATTAAACCAGAAACATTTCAATGATAGATCTGAAGAAAAGAAGAAGCTG  
TACTGTATCTATGTTGCTATTGGTCGAAAGAGATCCACTGTTGCTCAGTTGGTGAAGAGACTTACAGATGCAGAT  
GCCGTGAAGTACACCACTGTGGTGTGAGCTATGGCCTCAGATGCTGCCCTACTTCAGTACCTGGCTCCTTACTCT  
GACTGTTCCATGGGAGAGTATTTTAGAGACGATGGCAAATATACTTTGATCATCTATGACGACTTATCCAAACAG  
GCTGTGCGCTTACTGTGAGATGTCTCTGTTGCTCCACCGACCCCCCTGGTCGACTATGAAGCAGGCGGCAGGTACC  
ATGAAGCTGGAATTGGCTCAGGATCGTGAGGTTGCTGCTTTTGCCAGTTTGGTTCTGACCTCAATGCTCCCACT  
CAACAACCTATTGAGTCGCGGTGTGCGTCTAACTGAGTTGCTGAAGCAAGGACAGTATCCTCCCATGGTTACTGAA  
CAACAAGTGGCTGTTATCTGTGCGGGTGGAGAGAATATAGAGGACATTCCAAAGGAAGTGCTGACAGACTGCGCC  
CACCTTGTGAAGGCCAATAGCACTCAAGGCTGCAAGAACAACGTTAATGTGGTAAATACTCCACGGTCTAACCTG  
AAGAAAACAGCTGACGTGGATGTGAGGCAGATAGGCTTTCACAGGCAGAAGGATGTAAAAATTGTGACAATGGAG  
AAGAAAAGAGGATTCTAGCTCATATTTGGAACAAGGAAGTTCAAGATCTCATCCGGGACTATCTGGAAGAAGGA  
AAGAAGTGGTGGATTGGGCAAAATGTAATGCCATTGAAAAAGCATCAAGACAACAAATACCCAGCAGACGTTGCA  
GCCAACGGGCCCCCAAAGCCCCTCAGCTGCACCTACCTGTCCAGAACTTCATTTCGGATCTCATCCAAAGGGGAC  
AAGTGCTTACTGAAATACTATTTTCAATTTGCCAGACTGGTGACTTTTTGGACGGAGATGCCCATATGAAAGAAAT  
GGAAATAATTCCATTTGTACCAGAGACACAAGAAGACAAAAAGAGGAGTTGCAATAGCAAGAGACAAATGCC  
CCAGACTTTCAGGATCATGTGATTCTGGCCAAGAAATAAAAGCAAAATCATTTTATTCCCAGTGGATTCCGGAT  
GAAACCGGTGATAAAATCAGGTACAACCTCCAAGAGGAGACACTGGAGAACAGGCATGCTGGGTCTGTAA

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**FIGURE 4598**

MLSVCVSAAVARDLTRKEGGIVKRTGTIVDVPVGEELLGRVVDALGNAIDGKGPMGSKTHKIIPRTSVWEPMP  
IKAVDSLVP IGRGQHELIIGDRRTGKTSIAIDTIINQKHFNDRSEEKKLYCIYVAIGRKRSTVAQLVKRLTDAD  
AVKYTTVVSAMASDAALLQYLAPYSDCSMGEYFRDDGKYTLIIYDDLQAVAYCQMSLLLHRPPWSTMKQAAGT  
MKLELAQDREVAFAQFGSDLNAPTQQLLSRGVRLTELLKQGQYPPMVTEQQVAVICAGGENIEDIPKEVLTDCA  
HLVKANSTQGCKNNVNVVNTPRSNLKKTADVDVRQIGFHRQKDVKIVTMEKKRGFLAHIWNKEVQDLIRDYLEEG  
KKWWIGQNVMP LKKHQDNKYPADVAANGPPKPLSCTYLSRNFIRISSKGDKCLLKYYFICQTGDFLDGDAHYERN  
GNNSHLYQRHKKTKRGVAIARDKMPPDFQDHVIPGQEIKAKSFYSPVDSDETGDKIRYNSKRRHWRTGMLGL

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**FIGURE 4599**

CTGTGGCTGGCCTCCCCGCGCCCAGAGCGAAATTAAGGGCATGCCCCAGCAGCTGACTCAGTCGGCGTGGCGCT  
TCCCCAACGTCTGCCGTGCCCCGCGCGGGGAAGTAGTCCCCGGCCGCGCCGACTCCAAAGGAAACCGAGGGAG  
GGTGCCCCGAGTCAGCGCGTGGGTCCCCGGCAGCGGCGATCGCGCAGCCAATCCCTGGAAAGGAGGGCGTGGCTAT  
ATCGGCCCCGTGGATCCCTCCGCCCCGCGCTTGTTGTGCTGAGGCCGAGGGAGTCGCCATTTTGGATGGTGAACCC  
TGAAGTCGGTGTCTGCTGCGTTACGGCAGGATTCGGTTAGGAGGAACAGCACAGCATGCTGGGCTCTGGATTTA  
AAGCTGAGCGCTTAAGAGTGAATTTGAGATTAGTCATAAATCGCCTTAAACTATTGGAGAAAAAGAAAACGGAAC  
TGGCCCAGAAAGCAAGGAAGGAGATTGCTGACTATCTGGCTGCTGGGAAAGATGAACGAGCTCGGATCCGTGTGG  
AGCACATTATCCGGGAAGACTACCTCGTGGAGGCCATGGAGATCCTGGAGCTGTACTGTGACCTGCTGCTGGCTC  
GGTTTGGCCTTATCCAGTCTATGAAGGAACTAGATTCTGGTCTGGCTGAATCTGTGTCTACATTGATCTGGGCTG  
CTCCTCGACTCCAGTCAGAAGTGGCTGAGTTGAAAATAGTTGCTGATCAGCTCTGTGCCAAGTATAGCAAGGAAT  
ATGGCAAGCTATGTAGGACCAACCAGATTGGAACCTGTGAATGACAGGCTAATGCACAAGCTGAGTGTGGAAGCCC  
CACCCAAAATCCTGGTGGAGAGATACCTGATTGAAATGCAAAGAATTACAACGTACCCTATGAACCTGACTCTG  
TGGTCATGGCAGAAGCTCCTCCTGGGGTAGAGACAGATCTTATTGATGTTGGATTACAGATGATGTGAAGAAAG  
GAGGCCCTGGAAGAGGAGGGAGTGGTGGCTTCACAGCACCAGTTGGTGGACCTGATGGAACGGTGCCAATGCCCA  
TGCCCATGCCCATGCCTATGCCATCTGCAAATACGCCCTTCTCATATCCACTGCCAAAGGGACCAGTAGATGACA  
TTAATGCTGATAAGAATATCTCTTCTGCACAGATTGTTGGTCTGGACCCAAGCCAGAAGCCTCTGCAAAGCTTC  
CTTCAGACCTGCAGATAACTATGACAACCTTTGTCTACCAGAGTTGCCATCTGTGCCAGACACACTACCAACTG  
CATCTGCTGGTGCCAGCACCTCAGCATCTGAAGACATTGACTTTGATGATCTTTCCCGGAGGTTTGAAGAGCTGA  
AAAAGAAAACATAGGTCTCTTAAACCAGGCAACTTTCACGTTTTGGGAGTTGAGACTGAGCAATTTCTCCTTGTA  
ACAAAGAATCTCCATGAAATTCTGTTTCATCTGTAAACCGTCACTCAGCACAACACTCCCTCTGGGCTCTCTTCC  
TGCTCCTCCAGATTCTGCTGCTTTCCAGTTCTCTGTTGATCCTGAGACTAACAATTGGAGACTGAGGCCAGAGCA  
ACTGGCTCCTGGCAGCTGTGCTTGTCCGTTTCTGTGAGAGTGATCCCAGGTTTCTCCTGGCCCGTCCCATGGT  
CCCTCCACAGGAGTGTGAGAGGATGGGGGAAGCACTGTGGGAAGACCACCAAAGATGGCTGGACAGTGGGAGAGA  
GCACGTTGTGAAGCATCCCAGCCTCGTGTTGAGGTTCCAGACTTAGAAACAGACCCCTCTGTACAGGGGGATTGT  
GGTGAGTGAGAATCAAGGCCACCTTGTGTGTTTTCTCACTCTCGAATGCAAGTGGGAGAGGGAAAATGACTCGGG  
ACGCCATTGTAACGGTTCCTGGAAGCTGGGCCCTCTCATTGGCATATACAGTACTCCTCGCTGCAGGGCACTGTC  
CCACCGGGATCCAGTTGCAAAGTTTGTCTTGACAGTTGAAGGCCTCGCTTAGTTGTACTGGATTCTCAGGGAGCC  
CTCTGTGGCCTTTTGCTTTGCGTGCTGTTTCCCTTGTACCAGAGGGCGGCACCGTGGAAATTTCTGTTTTCCCTGT  
AGCATATTGTGTTGGATTGCATTACTGGCAGAGAAAGGACAAGGTGCCATTCAAGTCCTAGGGTGGGCTTCCAGC  
TGCCCTTAATAGAAGTACTCAAGTCTTTTGGGTAGTGAGCTGGAAAGCCTACAGGAAAAGAGGGGTACCTGTTTTTC  
ATTTGAAAACCTTGATTGATGGAACCTTTAAACTAATCTCAGAAAAATTTTGGTGCCCATGCAGCTGTAGTTG  
TTCACTGCTTTCTGGATGGATGGGACTCTTATGTCATAACTTCTGTTACTCCTTTGGCCCATAGCTAAGGTCAT  
CCTTCCCCACAGGGGTGGCTTTGGGATTGGATGATACAGCTTTTGCTTCTGTGTAGTATACCTGTACATACTTGT  
TTCAGGCAGCCTTTCTTTAATGTTTTAGTTGGTTTGTATTCTGTAGCTCAGTAGCTGCTAATAAAGTTAAAGAT  
CCTGTG

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**FIGURE 4600A**

CGGCGCTGAGTGACCCGAGTCGGGACGCGGGCTGCGCGCGGGACCCCGAGCCCAAACCCGGGGCAGGCGGGC  
AGCTGTGCCCCGGGCGGCACGGCCAGCTTCCTGATTTCTCCCGATTCTTCTTCTCCCTGGAGCGGCCGACAATG

TCCACCACGGTCAATGTAGATTCCCTTGCGGAATATGAGAAGAGCCAGATCAAGAGAGCCCTGGAGCTGGGGACG  
GTGATGACTGTGTTTCACTTCCGCAAGTCCACCCCGAGCGGAGAACCGTCCAGGTGATCATGGAGACGCGGCAG  
GTGGCCTGGAGCAAGACCGCTGACAAGATCGAGGGCTTCTTGATATCATGGAAATAAAAGAAATCCGCCAGGG  
AAGAACTCCAAAGATTTTCGAGCGAGCAAAAGCAGTTCCGCAGAAAGAAGACTGCTGCTTCACCATCCTATATGGC  
ACTCAGTTTCGTCCTCAGCACGCTCAGCTTGGCAGCTGACTCTAAAGAGGATGCAGTTAACTGGCTCTCTGGCTTG  
AAAATCTTACACCAGGAAGCGATGAATGCGTCCACGCCACCATTATCGAGAGTTGGCTGAGAAAGCAGATATAT  
TCTGTGGATCAAACCAGAAAGAACAGCATCAGTCTCCGAGAGTTGAAGACCATCTTGCCCTGATCAACTTTAAA  
GTGAGCAGTGCCAAGTTTCTTAAAGATAAGTTTGTGGAAATAGGAGCACACAAAGATGAGCTCAGCTTTGAACAG  
TTCCATCTCTTCTATAAAAAAATTATGTTTGAACAGCAAAAATCGATTCTCGATGAATTCAAAAAGGATTCTGTC  
GTGTTTCTCTGGGGAACTGACAGGCCGGATGCCTCTGCTGTTTACCTGCATGACTTCCAGAGGTTTCTCATA  
CATGAACAGCAGGAGCATTGGGCTCAGGATCTGAACAAAGTCCGTGAGCGGATGACAAAGTTCATTGATGACACC  
ATGCGTGAAACTGCTGAGCCTTTCTTGTGTTGTGGATGAGTTCTCACGTACCTGTTTTACGAGAAAACAGCATC  
TGGGATGAGAAGTATGACGCGGTGGACATGCAGGACATGAACAACCCCTGTCTCATTACTGGATCTCCTCGTCA  
CATAACACGTACCTTACAGGTGACCAGCTGCGGAGCGAGTCTGTCCTCAGAAAGCTTACATCCGCTGCCTGCGCATG  
GGCTGTGCTGCTGATTGAAGTGGACTGCTGGGACGGGCCGATGGGAAGCCGGTCATCTACCATGGCTGGACGCGG  
ACTACCAAGATCAAGTTTTCAGCAGCTGCTGCAGGCCATCAAAGACCACGCCTTTGTTACCTCGAGCTTCCAGTG  
ATCCTGTCCATCGAGGAGCACTGCAGCGTGGAGCAACAGCGTCACATGGCCAAGGCTTCAAGGAAGTATTTGGC  
GACCTGCTGTTGACGAAGCCCACGGAGGCCAGTGTGACCAGCTGCCCTCGCCAGCCAGCTGCGGGAGAAGATC  
ATCATCAAGCATAAGAAGCTGGGCCCCGAGGCGATGTGGATGTCAACATGGAGGACAAGAAGGACGAACACAAG  
CAACAGGGGGAGCTGTACATGTGGGATTCCATTGACCAGAAATGGACTCGGCACTACTGCGCCATTGCCGATGCC  
AAGCTGTCTTTCAGTGATGACATTGAACAGACTATGGAGGAGGAAGTGCCCCAGGATATACCCCTACAGAATA  
CATTTTGGGGAGAAATGGTTCCACAAGAAGGTGGAGAAGAGGACGAGTGCCGAGAAGTTGCTGCAGGAATACTGC  
ATGGAGACGGGGGCAAGGATGGCACCTTCTGTTTGGGAGAGCGAGACCTTCCCCAATGACTACACCTGTTC  
TTCTGGCGGTGAGGCCGGTCCAGCACTGCCGATCCGCTCCACCATGGAGGGCGGGACCTGAAATACTACTTG  
ACTGACAACCTCACCTTACGACGATCTATGCCCTCATCCAGCACTACCGCGAGACGCACCTGCGCTGCGCCGAG  
TTGAGCTGCGGCTCACGGACCCTGTGCCCAACCCCAACCCCAACCCCAACCCCAACCCCAACCCCAACCCCAAC  
AGCCGCGGAGAGGACAGAGGACATGCTGATGAGGATTCCCCGGGACGGGGCTTCTGATCCGGAAGCGAGAGGGG  
AGCGACTCCTATGCCATCACCTTACGGGCTAGGGGCAAGGTAAAGCATTGTGCGATCAACCGGGACGGCCGGCAC  
TTTGTGCTGGGGACCTCCGCCTATTTTGAGAGTCTGGTGGAGCTCGTCAGTTACTACGAGAAGCATTCACTCTAC  
CGAAAGATGAGACTGCGCTACCCCGTGACCCCGAGCTCCTGGAGCGCTACAATATGGAAAGAGATATAAACTCC  
CTCTACGACGTCAGCAGAATGTATGTGGATCCCAAGTGAATCAATCCGTCCATGCCCTCAGAGAACCGTGAAAGCT  
CTGTATGACTACAAAGCCAAGCGAAGCGATGAGCTGAGCTTCTGCCGTGGTGCCCTCATCCACAATGTCTCCAAG  
GAGCCCGGGGGCTGGTGGAAAGGAGACTATGGAACCAGGATCCAGCAGTACTTCCCATCCAACACGTCGAGGAC  
ATCTCAACTGCAGACTTCGAGGAGCTAGAAAAGCAGATTATTGAAGACAATCCCTTAGGGTCTCTTTGCAGAGGA  
ATATTGGACCTCAATACCTATAACGTCGTGAAAGCCCCTCAGGGAAAAAACCAGAAGTCCTTTGTCTTCATCCTG  
GAGCCCAAGCAGCAGGGCGATCCTCCGGTGGAGTTTGCCACAGACAGGGTGGAGGAGCTCTTTGAGTGGTTTCAG  
AGCATCCGAGAGATCACCTGGAAGATTGACACCAAGGAGAACAACATGAAGTACTGGGAGAAGAACCAGTCCATC  
GCCATCGAGCTCTCTGACCTGGTTGTCTACTGCAAACCAACCAGCAAAACCAAGGACAACCTTAGAAAATCCTGAC  
TTCCGAGAAATCCGCTCCTTTGTGGAGACGAAGGCTGACAGCATCATCAGACAGAAGCCGTCGACCTCCTGAAG  
TACAATCAAAGGGCCTGACCCGCTTACCCAAAGGGACAAAGAGTTGACTCTTCAAACACGACCCCTTCCGC  
CTCTGGCTGTGCGGTTCTCAGATGGTGGCACTCAATTTCCAGACGGCAGATAAGTACATGCAGATGAATCACGCA  
TTGTTTTCTCTCAATGGGCGCACGGGCTACGTTCTGCAGCCTGAGAGCATGAGGACAGAGAAATATGACCCGATG  
CCACCCGAGTCCAGAGGAAGATCCTGATGACGCTGACAGTCAAGGTTCTCGGTGCTCGCCATCTCCCCAACTT  
GGACGAAGTATTGCCTGTCCCTTTGTAGAAGTGGAGATCTGTGGAGCCGAGTATGACAACAACAAGTTCAAGACG  
ACGGTTGTGAATGATAATGGCCTCAGCCCTATCTGGGCTCCAACACAGGAGAAGGTGACATTTGAAATTTATGAC  
CCAAACCTGGCATTCTGCGCTTTGTGGTTTATGAAGAAGATATGTTTCAGCGATCCCAACTTTCTTGCTCATGCC



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**FIGURE 4600B**

ACTTACCCCATTAAGCAGTCAAATCAGGATTCAGGTCCGTTCCCTCTGAAGAATGGGTACAGCGAGGACATAGAG  
CTGGCTTCCCTCCTGGTTTTCTGTGAGATGCGGCCAGTCCTGGAGAGCGAAGAGGAACTTTACTCCTCCTGTGCGC  
CAGCTGAGGAGGCGGCAAGAAGAACTGAACAACCAGCTCTTCTGTATGACACACACCAGAACTTGCGCAATGCC  
AACCGGGATGCCCTGGTTAAAGAGTTCAGTGTTAATGAGAACCAGCTCCAGCTGTACCAGGAGAAATGCAACAAG  
AGGTTAAGAGAGAAGAGAGTCAGCAACAGCAAGTTTTACTCATAGAGCTGGGGTATGTGTGTAAGGGTATTGTG  
TGTGTGCGCATGTGTGTTTGCATGTAGGAGAACGTGCCCTATTCACACTCTGGGAAGACGCTAATCTGTGACATC  
TTTTCTTCAAGCCTGCCATCAAGGACATTTCTTAAGACCCAACTGGCATGAGTTGGGGTAATTTCTATTATTTT  
CATCTTGGACAACTTTCTTAACCTTATATTCTTTATAGAGGATTCCCCAAAATGTGCTCCTCATTTTTTGGCCTCTC  
ATGTTCCAAACCTCATTGAATAAAAGCAATGAAAACCTTG

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**FIGURE 4601**

MSTTVNVDSLAEYEKSQIKRALELGTVMTVFSFRKSTPERRTVQVIMETROQVAWSKTADKIEGFLDIMEIKEIRP  
GKNSKDFERAKAVRQKEDCCFTILYGTQFVLSTLSLAADSKEDAVNWLSGLKILHQEAMNASTPTIIESWLRKQI  
YSVDQTRRNSISLRELKILPLINFKVSSAKFLKDKFVEIGA HKDELSEFQFHLFYKKLMFEQQKSILDEFKKDS  
SVFILGNTDRPDASAVYLHDFQRFLIHEQQEHWAQDLNKVRERMTKFIDDTMRETAEPFLFVDEFLLTYLFSRENS  
IWDEKYDAVDMQDMNPLSHYWISSSHNTYLTGDLRSESSPEAYIRCLRMGCRCIELDCWDGPDGKPVIIYHGWT  
RTTKIKFDDVVQAIKDHAFTSSFPVILSIEEHCSVEQQRHMAKAFKEVFGDLLLTKEASADQLPSPSQLREK  
IIIKHKKLGPRGDVDVNMEDKKDEHKQQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIEQTMEEVPQDIPPE  
LHFGEKWFHKKVEKRTSAEKLLQEYCMETGGKDGTFVLVRESETFPNDYTLSEFWRSGRVQHCRIRSTMEGGTLKYY  
LTDNLTFSSIIYALIQHYRETHLRCAEFELRLTDPVPNPNPHESKPWYYDSL SRGEAEDMLMRIPRDGAFLIRKRE  
GSDSYAITFRARGKVKHCRINRDGRHFVLGTSAYFESLVELVSYYEKHSLYRKMLRYPVTPELLERYNMERDIN  
SLYDVSRMYVDPSEINPSPMPQRTVKALYDYKAKRSELSFCRGALIHNVSKEPGGWWKGDYGTRIQQYFPSNYVE  
DISTADFEELKQIIEDNPLGSLCRGILDNLNTYNVVKAPQGKNQKSFVFILEPKQQGDPPVEFATDRVEELFEWF  
QSIREITWKIDTKENNMKYWEKNQSI AIELSDLVYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLL  
KYNQKGLTRVYPKQQRVDSSNYDPFRLWL CGSQMVALNFQTADKYMOMNHALFSLNGRTGYVLQPE SMRTEKYDP  
MPPE SQRKILMTLTVKVLGARHL PKLGRS IACPFVEVEICGA EYDNNKFKT TVVNDNGLSP IWAPTQEKVTFEIIY  
DPNLAF LRFVVYEEDMFSDPNFLAHATYPIKAVKSGFRSVPLKNGYSEDIELASLLVFCEMRPVLESEEEELYSSC  
RQLRRRQEELNNQLFLYDTHQNLNRNANRDALVKEFSVNENQLQLYQEKCNKRLREKRVSN SKFYS

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**FIGURE 4602**

GGGCGGGCCCGCACCCCTGCGAACATGGCGCTGCGAGTGGTGCGGAGCGTGCGGGCCCTGCTCTGCACCCCTGCGC  
GCGGTCCCGTTACCCGCCGCGCCCTGCCC GCCGAGGCCCTGGCAGCTGGGGGTGGGCGCCGTCCGTACGCTGCGC  
ACTGGACCCGCTCTGCTCTCGGTGCGTAAATTCACAGAGAAACACGAATGGGTAAACAACAGAAAATGGCATTGGA  
ACAGTGGGAATCAGCAATTTTGCACAGGAAGCGTTGGGAGATGTTGTTTATTGTAGTCTCCCTGAAGTTGGGACA  
AAATTGAACAAACAAGATGAGTTTGGTGCTTTGGAAAGTGTGAAAGCTGCTAGTGAACCTCTATTCTCCTTTATCA  
GGAGAAGTAACTGAAATTAATGAAGCTCTTGCAAGAAATCCAGGACTTGTAACAAATCTTGTTATGAAGATGGT  
TGGCTGATCAAGATGACACTGAGTAACCCTTCAGAACTAGATGAACTTATGAGTGAAGAAGCATATGAGAAATAC  
ATAAAATCTATTGAGGAGTGA<sup>1</sup>AAATGGAACCTCTAAATAAACTAGTATGAAATAACGCAAGCCAGCAGAGTTGTC  
TTAAATTAGTGGTGGATAGAAGACTTAGAATAGAACTTTTAGTATTACCGATGGGGAAAAAAAAAACTACTGTTA  
ACACTGCTAATGAAAGAAAATGCCCTTTAACTTTCTAATGATTATAGATAAATATAATATGCGTCTTTTTTCACAA  
TATCCTATGATTTTTTAGACTAGGCTCTAGTGTTTCAAGAAATTCATGAAATTATCCATGGTAAAACTAGTTATAAAA  
ATTACATAATTCAAAGATAACATTGTTATTCTTAAGCCTTATATAATATTGTAACCTTGCATGTATCCATACCTGG  
ATTTGGGATGAAATACTTAATGATCTTTCCATTGGAAATAACTGGAA<sup>2</sup>GTGAAGAGGTTTTTGTTGCTTGTACAGTG  
TCAGATGAGGAACACCACTATCTTAATTTTGGGATACACTGCATTGCTGGTGCTATTTTTTATACAGTGAAGCAA  
CAGCTTTGCAGCAAATAATAAAATACTTCTTCGTT

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**FIGURE 4603**

MALRVVRSVRALLCTLRVPLPAAPCPPRPWQLGVGAVRTLRTGPALLSVRKFTKHEWVTENGIGTVGISNFA  
QEALGDVVYCSLPEVGTKLNKQDEFGALESVKAASELYSPLSGEVTEINEALAENPGLV NKSCYEDGWLIKMTLS  
NPSELDELMSEEAYEKYKSIEE

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**FIGURE 4604**

ACGGTGGAGCGGTGGAGGGCGTCACTGGGTTTCGGCGTCTGGCAAGCGGTTTCAGCTGTCTGCTCCCTAGCAGCCG  
GCCTTCGGGTCGGGCGTCTCCGCGGCTACTGCCGCTTCAGTTCTCCCGGTGTGGCCACGAGTCGGGTTGCACTGC  
TGTGATCCATCCTCATCTCCTAAAGATGCATCCTGACTTATCTCCACACTTGCACACTGAAGAATGCAACGTCTT  
GATTAACTTGCTTAAGGAATGTCACAAAAATCACAAACATTCTGAAATTTTTTGGTTATTGTAATGATGTTGATCG  
GGAGTTGAGAAAATGCCTGAAGAATGAGTACGTAGAAAACAGGACCAAGAGCAGGGAGCATGGCATTGCAATGCG  
AAAGAACTTTTTAATCCTCCAGAGGAATCCGAAAAATAAATTGTATTTTCACTCGATGCCTTGGCTGAGAGAAG  
ACCTAAAGACTCTGGGTTGATACCTGAAAGAATCCTGTCTTATTTGGTCTCCATAATCCTTTGAATGGAAAGTGA  
CCTGTGAGAGATTGAACCATGGAGAAATATGAAAACCTGGATTCTGAGTATTTGTTGGGCAGGGCGTTTAGTAC  
TGTCTCCCCTTTACCAGCAAACCTGACTTCACCATGTTTATTCCTTTGCCTACAACCAGTTAATATCTGAGTAA  
CTTATCTCCTTCAATAAAATAATTTAAATAAAAAAAAAAAAA

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**FIGURE 4605**

MHPDLSPHLHTEECNVLINLLKECHKNHNI LKFFGYCNDVDREL RKCLKNEYVENRTKSREHGIAMRKKLFNPPE  
ESEK

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**FIGURE 4606**

GCGCAGGCGCGGCGGCCGATGCGAGTGTGTATGTGCGGGCGAGAAGATGGCGGCGGCGGGGGAAGCAGCGTGAGC  
AGCCGGAGGATCGCGGAGTCCCAATGAAACGGGCAGCCATGGCCCTCCACAGCCCCGAGTATATTTTTGGAGATT  
TTAGCCCTGATGAATTCAATCAATTCTTTGTGACTCCTCGATCTTCAGTTGAGCTTCCTCCATACAGTGGAACAG  
TTCTGTGTGGCACACAGGCTGTGGATAAACTACCTGATGGACAAGAATATCAGAGAATTGAGTTTGGTGTCTGATG  
AAGTCATTGAACCCAGTGACACTTTGCCGAGAACCCCCAGCTACAGTATTTCAAGCACACTGAACCCTCAGGCCC  
CTGAATTTATTCTCGGTTGTACAGCTTCCAAAATAACCCCTGATGGTATCACTAAAGAAGCAAGCTATGGCTCCA  
TCGACTGCCAGTACCCAGGCTCTGCCCTCGCTTTGGATGGAAGTTCTAATGTGGAGGCGGAAGTTTGGAAAATG  
ATGGTGTCTCAGGTGGTCTTGGACAAAGGGAGCGTAAAAAGAAGAAAAAGCGGCCACCTGGATATTACAGCTATT  
TGAAAGATGGTGGCGATGATAGTATCTCCACAGAAGCCCTGGTCAATGGCCATGCCAATTCAGCAGTCCCGAACA  
GTGTCAAGTGCAGAGGATGCAGAATTTATGGGTGACATGCCCCCGTCAGTTACGCCCAGGACTTGTAAACAGCCCCC  
AGAAGTCCACAGACTCTGTCTGAGTACATTGTGCCTGACAGTCTTTTCCCCGGAGCACTCGGCAGTGACACCAGGA  
CTGCAGGGCAGCCAGAGGGGGGGCCCCGGGGCTGATTTTGGTCAGTCTGCTTCCCTGCAGAGGCTGGCAGAGACA  
CCCTGTCAAGGACAGCTGGGGCTCAGCCCTGCGTTGGTACCGATACTACTGAAAACCTTGGAGTTGCTAATGGAC  
AAATACTTGAATCCTCGGGTGAGGGCACAGCTACCAACGGGGTGGAGTTGCACACCACGGAAAGCATAGACTTGG  
ACCCAACCAAACCCGAGAGTGCATCACCTCCTGCTGACGGCACGGGCTCTGCATCAGGCACCCCTTCTGTCTAGCC  
AGCCCAAGTCTGGGCCAGCCTCTTTTCATGATTCTAAGCCCTCTTCTCCTCGCCGGTGGCCTATGTGGAAACTA  
AGTATTTCCCTCCCGCCATATCTCCCTGGTTTCTGAAAAGCAGGTTGAAGTCAAAGAAGGGCTTGTTCGGTTT  
CAGAGGATCCTGTAGCCATAAAGATTGCAGAGTTGCTGGAGAATGTAACCTAATCCATAAACCAGTGTCTGTGC  
AACCCCGTGGGCTGATCAATAAAGGGAAGTGGTGTACATTAATGCTACACTGCAGGCATTGGTTGCTTGCCCGC  
CGATGTACCACTGATGAAGTTCATTCTCTGTATTCCAAAGTGCAAAGGCCTTGTACGTCAACACCCATGATAG  
ACAGCTTTGTTCCGCTAATGAATGAGTTCATAATATGCCAGTACCTCCAAAACCCCGACAAGCTCTTGGAGATA  
AAATCGTGAGGGATATTTCGCCCTGGAGCTGCCTTTGAGCCACATATATTTACAGACTCCTGACAGTTAACAAGT  
CAAGCCTGTCTGAAAAGGGTCGACAAGAAGATGCTGAGGAATACTTAGGCTTCATTCTAAATGGACTTCATGAGG  
AAATGTTGAACCTAAAGAAGCTTCTCTACCAAGTAATGAAAACCTTACGATTTCACACGGCCCCAAAAACCACT  
CGGTCAATGAAGAAGAGCAGGAAGAACAAGGTGAAGGAAGCGAGGATGAATGGGAACAAGTGGGCCCCCGGAACA  
AGACTTCCGTACCCGCCAGGCGGATTTTGTTCAGACTCCAATCACCGGCATTTTGGTGGACACATCAGGTCTG  
TGGTTTACCAGCAGAGTTCAAAAAGATCTGCCACTTTGCAGCCATTTTTCACGTTGCAGTTGGATATCCAGTCAG  
ACAAGATACGCACAGTCCAGGATGCACTGGAGAGCTTGGTGGCAAGAGAATCTGTCCAAGGTTATACCACAAAAA  
CCAAACAAGAGGTTGAGATAAGTCGAAGAGTGACTCTGGAAAACTCCCTCCTGTCTCTGCTGCACCTGAAAC  
GATTCTGTTTATGAGAAGACTGGTGGGTGCCAGAAGCTTATCAAAAATATTGAATATCCTGTGGACTTGGAAATTA  
GTAAAGAAGTCTTTCTCCAGGGTTAAAAATAAGAATTTTAAATGCCACCGAACCTATCGGCTGTTTGCAGTGG  
TCTACCATCACGGCAACAGTGCGACGGGCGGCCATTACACTACAGACGTCTTCCAGATCGGTCTGAATGGCTGGC  
TGCGCATCGATGACCAGACAGTCAAGGTGATCAACCAGTACCAGGTGGTGAAACCAACTGCTGAACGCACAGCCT  
ACCTCCTGTATTACCGCCGAGTGGACCTGCTGTAAACCTGTGTGCGCTGTGTGTGCGCCAGTGCCCGCTTCGT  
AGGACACCACCTCACACTCACTTCCCGCCTCTCTTTAGTGGCTCTTTAGAGAGAACTCTTTCTCCCTTTGCAAA  
AATGGGCTAGAATGAAAAGGAGATGCCTTGGGGTTCGTGCACAACACAGCTTCTGTTGACTCTAACTTCCAAATC  
AAAATCATTGTTGTTGAAACAGACTGTTGCTTGATTTTAGAAAATACACAAAAACCCATATTTCTGAAATAATGCT  
GATTCTGAGATAAGAAAGTGGATTGATCCCCAGTCTCATTGCTTAGTAGAATAAATCCTGCACCAGCAACAAC  
ACTTGTAATTTGTGAAAATGAATTTTATCTTTCCTTAAAAAGAAATTTTTTAATCCATCACACTTTTCTTCCC  
TACCCTTTAGTTTTTGTATAAATGATAAAAAATGAGCCAGTTATCAAAGAAGAACTAGTTCTTACTTCAAAAAGAAAA  
ATAAACATAAAAAATAAGTTGCTGGTTCCCTAACAGGAAAAATTTTAATAATTGTACTGAGAGAACTGCTTACGT  
ACACATTGCAGATCAAATATTTGGAGTTAAAAATGTTAGTCTACATAGATGGGTGATTGTAACCTTTATTGCCATTA  
AAAGATTTCAAATTGCATTTCATGCTTCTGTGTACACATAATGAAAATGGGCAAATAATGAAGATCTCTCCTTCA  
GTCTGCTCTGTTAATTCTGCTGTCTGCTCTTCTCTAATGCTGCGTCCCTAATTGTACACAGTTTAGTGATATCT  
AGGAGTATAAAGTTGTGCGCCATCAATAAAAAATCACAAAGTTGGTTT

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**FIGURE 4607**

MALHSPQYIFGDFSPDEFNQFFVTFRSSVELPPYSGTVLCGTQAVDKLPDGGQEYQRIEFGVDEVIEPSDTLPRT  
SYSISSTLNPQAEFILGCTASKITPDGITKEASYGSIDCQYPGSALALDGSSNVEAEVLENDGVSGGLGQRRK  
KKKKRPPGYYSYLDGGDDSIESTEALVNGHANSAPNSVSAEDAEFMGDMPPSVTPRTCNSPQNSTDVSDIVPD  
SPFPGALGSDTRTAGQPEGGPADFGQSCFPAEAGRDTLSRTAGAQPCVGTDTTENLGVANGQILESSGEGTATN  
GVELHTTESIDLDPKPEASPPADGTGSASGTLPVSQPKSWASLFHDSKPSSSSPVAYVETKYSPPAISPLVSE  
KQVEVKEGLVPVSEDPVAIKIAELLENTLIHKPVSLQPRGLINKGNWCYINATLQALVACPPMYHLMKFIPLYS  
KVQRPCSTSTPMIDSFVRLMNEFTNMPVPPKPRQALGDKIVRDIRPGAAFEPTYIYRLLTVNKSSLSEKGRQEDAE  
EYLGFIINGLHEEMLNLKKLLSPSNEKLTISNGPKNHSVNEEEQEEQGESEDEWEQVGPRNKTSVTRQADFVQT  
PITGIFGGHIRSVVYQQSSKESATLQPFFTLQLDIQSDKIRTVQDAESLVARESVOGYTTTKTKQEVEISRRVTL  
EKLPPVLVLHLKRFVYEKTGGCQKLIKNIIEYPVDLEISKELLSPGVKNKNFKCHRTYRLFAVVYHHGNSATGGHY  
TTDVFAQIGLNGWLRIDDQTVKVINQYQVVKPTAERTAYLLYYRRVDLL



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**FIGURE 4608**

GGAAGCCGACGCCGCGCTCGCATGCTCGCAGGCGCCGCGTAGCCGTCGCCACCGCCGCCAGCCCGTGCGCCCTCG  
GCGCGTACCCGCCGCGCTCCCATCCCCGCCGCGCGGCCAGGGGCGCGCTCGGCCGCCCGGACAGTGTCCCGCTGC  
GGCTCCGCGCGCATGGCCACCAAGATCGACAAAGAGGCTTGCCGGGCGGCGTACAACCTGGTGCGCGACGACGGC  
TCGGCCGTCATCTGGGTGACTTTTAAATATGACGGCTCCACCATCGTCCCCGCGGAGCAGGGAGCGGAGTACCAG  
CACTTCATCCAGCAGTGCACAGATGACGTCCGGTTGTTTGCCTTCGTGCGCTTACCACCGGGGATGCCATGAGC  
AAGAGGTCCAAGTTTGCCCTCATCACGTGGATCGGTGAGAACGTCAGCGGGCTGCAGCGCGCCAAAACCGGGACG  
GACAAGACCTTGGTGAAGGAGGTCTGACAGAATTTGCGTAAGGAGTTTGTGATCAGTGATCGGAAGGAGCTGGAG  
GAAGATTTTCATCAAGAGCGAGCTGAAGAAGGCGGGGGGAGCCAATTACGACGCCCGAGACGGAGTAACCCAGCCC  
CCGCCACACCACCCCTTGCCAAAGTCATCTGCCTGCTCCCCGGGGGAGAGGACCGCCGGCCTCAGCTACTAGCCC  
ACCAGCCCACCAGGGAGAAAAGAAGCCATGAGAGGCAGCGCCCGCCACCCTGTGTCCACAGCCCCCACCTTCCCG  
CTTCCCTTAGAACCCTGCCGTGTCTATCTCATGACGCTCATGGAACCTCTTTCTTTGATCTTCTTTTTCTTTTC  
TCCCCCTCTTTTTTGTCTAAAGAAAAGTCATTTTGATGCAAGGTCTGCCTGCCATCAGATCCGAGGTGCCTCC  
TGCAGTGACCCCTTTTCTGGCATTCTCTTCCACGCGACGAGGTCTGCCTAGTGAGATCTGCATGACCTCACGT  
TGCTTTCCAGAGCCCGGGCCTATTTTGCCATCTCAGTTTTCTTGGACCCCTGCTTCTGTGTACCACTGAGGGGCA  
GCTGGGCCAGGAGCTGTGCCCGGTGCCTGCAGCCTTCATAAGCACACACGTCCATTCCCTACTAAGGCCAGACC  
TCCTGGTATCTGCCCCGGGCTCCCTCATCCCACCTCCATCCGGAGTTGCCTAAGATGCATGTCCAGCATAGGCAG  
GATTGCTCGGTGGTGAGAAGGTTAGGTCCGGCTCAGACTGAATAAGAAGAGATAAAATTTGCCTTAAAACCTTACC  
TGGCAGTGGCTTTGCTGCACGGTCTGAAACCACCTGTTCCCACCCTCTTGACCGAAATTTCTTGTGACACAGAG  
AAGGGCAAAGGTCTGAGCCAGAGTTGACGGAGGGAGTATTTAGGGTTCACTTCAGGGGCTCCCAAAGCGACAA  
GATCGTTAGGGAGAGAGGCCAGGGTGGGGACTGGGAATTTAAGGAGAGCTGGGAACGGATCCCTTAGGTTTACGG  
AAGCTTCTGTGTAAGCTGCGAGGATGGCTTGGGCCGAAGGGTTGCTCTGCCCGCCGCGCTAGCTGTGAGCTGAGC  
AAAGCCCTGGGCTCACAGCACCCCAAAGCCTGTGGCTTCAGTCTGCGTCTGCACCACACATTCAAAGGATCG  
TTTTGTTTTGTTTTTAAAGAAAGGTGAGATTGGCTTGGTTCTTCATGAGCACATTTGATATAGCTCTTTTTCTGT  
TTTTCTTGCTCATTTTCGTTTTGGGGAAGAAATCTGTACTGTATTGGGATTGTAAAGAACATCTCTGCACTCAGA  
CAGTTTACAGAAATAAATGTTTTTTTTGTTTTTCAG

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**FIGURE 4609**

MATKIDKEACRAAYNLVRDDGSAVIWVTFKYDGSTIVPGEQGAEYQHF IQQCTDDVRLFAFVRFTTGDAMSKRSK  
FALITWIGENVSGLQRAKTGTDKTLVKEVVQNFAKEFVISDRKELEEDFIKSELKKAGGANYDAQTE

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**FIGURE 4610**

GCGGCCGGCGGCGTCTCCTCCCGGGACGCTGAGGGGCCCCGAGGAGACCGTGAGGCTCTGGCCTGCAGCTCGCGCC  
GCCATGGACGCTGCCGAGGTGCAATTCCTCGCCGAGAAGGAGCTGGTTACCATTATCCCCAACTTCAGTCTGGAC  
AAGATCTACCTCATCGGGGGGACCTGGGGCCTTTTAACCCCTGGTTTACCCGTGGAAGTGCCCTGTGGCTGGCG  
ATTAACCTGAAACAAAGACAGAAATGTCGCCTGCTCCCTCCAGAGTGGATGGATGTAGAAAAGTTGGAGAAGATG  
AGGGATCATGAACGAAAGGAAGAACTTTTACCCCAATGCCAGCCCTTACTACATGGAACCTTACGAAGCTCCTG  
TTAAATCATGCTTCAGACAACATCCCGAAGGCAGACGAAATCCGGACCCCTGGTCAAGGATATGTGGGACACTCGT  
ATAGCCAACTCCGAGTGTCTGCTGACAGCTTTGTGAGACAGCAGGAGGCACATGCCAAGCTGGATAACTTGACC  
TTGATGGAGATCAACACCAGCGGGACTTTTCCTCACACAAGCGCTCAACCACATGTACAACTCCGCACGAACCTC  
CAGCCTCTGGAGAGTACTCAGTCTCAGGACTTCTTAGAGAAAGGCCTGGTGCAGGCGGCTTGCTGGGGGATGTGAG  
CGCTCAGGATGTGATGAGGTACTCGTGGTTCTGGAGCTCTAGAAACACTTCTGATGCATGAAAAATGTGTGATGG  
TGCAAGGAATGGATTTCAGGATGTTGTTGGAGAAACAAGTTTGTGATTAGTCCTTAAACCTTAGCTCCCTGGGACA  
TTCTTCAATTCCACATCTGTTTCTAGAAACCAGCCCTTTTCCCCCCTTTTGGAGAAATAAAAAAGCCTTAGGT  
AAATAAGTCATTCTCCCTAGCAGAGCCACTTGGGTCTCCTGCATGGAAGCCGTCACACTTGGGCAGGTGTTTCACT  
GACTGGTAGGTGTAGATACAGCAGGAGTGGCCATGTGGTCCACGGCTTTTTACCCCTTCTTGATCCTGATTTCTT  
GGGCTGAATTTAGACTCTCTCACAGAGGTGGCTCACAGAGAAGGATGGCAGATGGTGCAGCCAACAATGCTGACC  
GGTGCTTATCCTCTAAGCCCTGATCCACAATAAAAAATGGACCCAACTCAAAAAAAAAA

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**FIGURE 4611**

MDAAEVEFLAEKELVTIIPNFSLDKIYLIIGGDLGPFNPGLPVEVPLWLAINLKQRQKCRLLPPEWMDVEKLEKMR  
DHERKEETFTPMPSPYMEITKLLLNHASDNIPKADEIRTLVKDMWDTRIAKLRVSADSFVRQQEAHAKLDNLTL  
MEINTSGTFLTQALNHMYKLRTNLQPLESTQSQDF

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**FIGURE 4612**

GGCACGAGGCTTCCCAGAGGCGCGAGTCGCTTTTCCAGGAGCCGAGGCCAAACGGGGCCGGGCCTGAAGGGTCC  
CCCGCCAGCCCGCGGCCGCGCCATCAATCGCCGCCGCTCGTCCCGCTTCTCGGCTGAGGCGCCGCGCGGCCAGG  
CAGCGGGTCCAGGCCTCAGCCGCGCGCCCAGGGGCCTCCGGGGCCCTCCCGGGTCAGC**ATG**CCCGGGGTGAAACT  
GACCACCCAGGCCTACTGCAAGATGGTGCTGCACGGCGCCAAGTACCCGCACTGCGCCGTCAACGGGCTCCTGGT  
GGCCGAGAAGCAGAAGCCGCGTAAGGAGCACCTCCCCCTGGGCGGCCCCGGCGCCACACACCTCTTCGTGGA  
CTGCATCCCCCTCTTCCACGGCACCTGGCCCTCGCCCCATGCTGGAGGTGGCTCTCACCCTGATTGATTCATG  
GTGCAAAGATCATAGCTACGTGATTGCTGGTTATTATCAAGCTAATGAGCGAGTAAAGGATGCCAGTCCAAACCA  
GGTTGCAGAGAAGGTGGCCTCCAGAATCGCCGAGGGCTTCAGCGACACTGCGCTCATCATGGTAGACAACACCAA  
GTTTACGATGGACTGCGTAGCGCCTACGATCCACGTGTACGAGCACCATGAGAACAGATGGCGGTGCAGAGACCC  
ACACCATGACTACTGTGAAGACTGGCCAGAGGCACAGAGGATCTCAGCCTCGCTCCTGGACAGCCGGTCTCTACGA  
GACGCTCGTGGATTTCGATAACCACCTGGATGACATTCGGAATGACTGGACAAACCCAGAGATCAATAAAGCTGT  
CCTACACTTGTGCT**TAG**GCAGGCACCGCTGTGACTGGGCTCCGGGCCTTTCCACTACGTTGAAGAAGAAAACCTAT  
TTTTAAATGTAAATAAAATATCTGGTAGCCTGTGTGGAAAGCTGACCGTTTTAAGAAGTGGCATGTGCCTTGAAA  
GGGGGCAGAAATGTTCAGTGCGGTGCTGTTTTTAACACAGAGTCTCTAGAAGAGGTGCAGACATCCCGTCTGACTGT  
CCCTGTGGACTCTCTCAGTTGTATGTTGCTATAATCCTCCAAATCAAAGCTCTTTCTGCTTGTGCAAGATTGTTT  
CTATTAAACAGTTTTAACTAACCTTTTATAATCTGGAGAGAATACTTTTTAAGGCTTTTGAACATCTTTTTTTTA  
AAAAAAAAAAAAAGCCACATCTTATACTCCAATGAGTGTGTTTGTGAGTTTTATCCTGTTTGAATTTTGATGT  
CGTCCAGGCGTCTTGGGATCAGGGTAGACACGTGGAGTGCTGGTGCTGAGCTGTTTGAGAAGCTCTGTGTGGGTG  
TTTCTGTGGTCAGGTAGGCTGGGCTGTGAACAGCACTGCTCCACATGGTGTCGGCTCACAGAGCCACCGCAACTC  
TGCCAGCGGGAGTGACACCACTGATGCCACAGAAGCCTTTATCGTTAGGGGCAAAGCAGACATCTCTGGTAGC  
AGGAGCTCAGTGTGGTGCTCTCAGCCACGCAGAAAGCTCACGTGCCTGCAGGGCCAGGAAAGGGAAATGATCGT  
TTCTTTTGTATTAGGAAAAACAAGACTTAGACTTCCCGAGTTGTGCAGAGTGACGTCTGTACTTTTTATACTTAG  
AACATTTGGTCAAGTTTTGTAAACCAACCTTAGGGAATTGAGAGGGAAACTTTATGGTACGTTTACCTTTTTTCC  
TTTTTATATGAATTATTTGTACAAAGTTCAGAGAGCGGTACCTTTCTACTGTCTTTTCTTTGACTCCATGGAG  
GAATTTGTAACGATCGGTGTGACCTGAAAGGGTTTGTGATACAGCGGTCACTATTTTCTCTTAACACATAGGAAA  
AAAGTTCAGACATCGCTACAATAAATGTGCTTTATTTGATCCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4613**

MPGVKLTTQAYCKMVLHGAKYPHCAVNGLLVAEKQKPRKEHLPLGGPGAHTLFVDCIPLFHGTLALAPMLEVAL  
TLIDSWCKDHSYVIAGYYQANERVKDASPNOVAEKVASRIAEGFSDTALIMVDNTKFTMDCVAPTIHVYEHHENR  
WRCRDPHHDYCEDWPEAQRISASLLDSRSYETLVDFDNHLDDIRNDWTNPEINKAVLHLC

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**FIGURE 4614**

CGACGTTTCGCAGCGCTACCCTTTTCCGCTCCACGGTGACCTCCGTGCGGCCGGGTGCGGGCGGAGTCTTCCTCGA  
TCCCGTGGTGCTCCGCGGCGCGGCCCTTGCTCTCTTCCGGTCGCGGGACACCGGGTGTAGAGGGCGGTTCGCGGCGG  
GCAGTGGCGGCAGAAATGTTGGCTACCAGGGTATTTAGCCTAGTTGGCAAGCGAGCAATTTCCACCTCTGTGTGTG  
TACGAGCTCATGAAAGTGTTGTGAAGAGCGAAGACTTTTCGCTCCCAGCTTATATGGATCGGCGTGACCACCCCT  
TGCCGGAGGTGGCCCATGTCAAGCACCTGTCTGCCAGCCAGAAGGCACTGAAGGAGAAGGAGAAGGCCCTCCTGGA  
GCAGCCTCTCCATGGATGAGAAAGTCGAGTTGTATCGCATTAAAGTTCAAGGAGAGCTTTGCTGAGATGAACAGGG  
GCTCGAACGAGTGGAAGACGGTTGTGGGCGGTGCCATGTTCTTCATCGGTTTCACCGCGCTCGTTATCATGTGGC  
AGAAGCACTATGTGTACGGCCCCCTCCCGCAAAGCTTTGACAAAGAGTGGGTGGCCAAGCAGACCAAGAGGATGC  
TGGACATGAAGGTGAACCCCATCCAGGGCTTAGCCTCCAAGTGGGACTACGAAAAGAACGAGTGGAAGAAGTGAG  
AGATGCTGGCCTGCGCCTGCACCTGCGCCTGGCTCTGTACCGCCATGCAACTCCATGCCTATTTACTGGAAACC  
TGTTATGCCAAACAGTTGTACCACTGCTAATAAATGACCAGTTTACCTGAAA

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**FIGURE 4615**

MLATRVFSLVGKRAISTSVCVRAHESVVKSEDFSLPAYMDRRDHPLPEVAHVKHLASQKALKEKEKASWSSLSM  
DEKVELYRIKFESFAEMNRGSNEWKTVVGGAMFFIGFTALVIMWQKHVYVGPLQSFDKIEWAKQTKRMLDMKV  
NP IQGLASKWDYEKNEWKK



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**FIGURE 4616A**

GTTCTAGAACATTCTCATCACCCATATTTACATTTATTTTTAATAACTCTCATGTGTAAGCTGAGTGTTTTAAAC  
TTTAGAGACTTCTGGGGGTGCTGAACTTGATAAAAAATATTCAGTATACAAGTGTTCTTTATAGTTCACATCATCA  
TTTTTCATAGAATTAGGGTTTTAAAAATTAGAAAGTAATTTAGGCCATTTCCATCTCCTGTCCCTCAAATCCCAGCT  
CAGTTTTGGGATGAGGTGTCAAGTATAAGTTTGTAAAGTATGCCAGTCATTTGCACGGCTAAGAGAAACATCTAGA  
GAAGTCTATATACGACTTGCTTAAAGCTGAATGTTGATTTACTGTTTCACATGATTTGGGTGATTTTAGTCACTGG  
GACTGAGCTAATGGAGTTGAAGCATTGTTGCGGGCATTGTACCTCCAGACCAGTGTTGTAATACAAAGAGTTCTTG  
CAGACATAGGACAGAATTGGAGAAAACAGCTTCTAACAGTGGGAAGACTCTCAGTACAACCAAGCTATTCCCTTACC  
TTTCTGATTTCTGAACTTTTTTCCATGTGATACCTGCTGCTTTGAAGGCATAAAATAACAGAAGCAGATAGAGC  
AGAAATCCTCACTCAGATCTTCTCCTTCCCTACCTGTATAACAGTTTGTGGCTTGCCTTGTCTGTTTTGTGCGTT  
TCGTTACGCGTATGTGAGTATGTGCACGTGATTTCCAGAAAGGAGAAGCGCACGATACTGCCCCGTGCTCTGTGAC  
TCTGAGTGCACGCTTCTCTGCATTTGGGCTCCTAGGTGGGCTCGTCTGTGGACGTTGCCCTTGTTCGTG  
CCAATCCACACATTCCTGATGCCCCGCTGCTCTACTCTTTCTCCAGAGTACTTTTTCCAAACATGTGATTTGCACA  
TTTGTATATGTTTATTGTTTGTGTTTCCACTTCTAGAAGTGTGCCACTAGGCAGGAATGTTTGATTTGTTCACTGAT  
GATCCAGATCTCTAGAACCCTGCCTTGCCTGTAGAGGGTGTGGTAAATGTGCTCTGAATGAATGGCTCCATG  
ATCCTCGTTTCTAAGAGCTAGCACGATTTCTCACTCAGTCCTGGTTGGACACAGGTTCCCTGGAACAGTGCTGTT  
GTGGTTATCTTCTCAGTGTCTTTGTTTCTGAACTTGAACGCTTTGAGTTTTTTATTGTTTTTGTCTCTCTCA  
TTAGTTTGAGTCCCTTGAGATAGGCTTTCATTTGTCCAGTCACCTGTTTCAGGGAGCCCTGAGGGCCTTGGCCC  
ACGTCGAGGTAAGTGGTTTTTTTATTTTTATTTTTTATTTTGTAGACGAAGTCTCGCTCTGTACCAGGCTGG  
AGTGCAGCGGTGCGATCTCAGCTCACTGCAACCTCCGCTCCTGCGTTCAAGCGATTCTCCTGCCTCAGCCTTCC  
GAGTAGCTGGGACTATAGGCACGTGCCGCCACGCCGGCTAATTTTTTGTATTTTTTAGTAGAGACGGGGTTTCAC  
CATGTTAGCCAGGATGGTCTCGATCTCCTGACATCGTGATCCGCTGCCTGGGCTCCCAAAGTGCTGGGATTAC  
AGGTGTGAGCCACCGCGCCAGCCCTGCAGGTAAGTGTAAATGTAGGAAGTGCTGCCTCTGGGCACCTTGGCCCC  
AGGGTTTATTAGCAGTTGCCCTGGTGGGTTTTTGTGGCTGTGATGAGAAGTGCTTCTGTTCCCCCTCCACCAC  
ACTCCTGCAACTGTTTAAACAGTGGCTGTGACCCCTGAGATGATCCAGGGTTTCAAGGCGTGACATGTCTGTG  
TTTTCGTTTTTCAAGATATCACCTTGGGGTGACTCTCAACTTACATGGATTTTTCAAAGATTTATTCAATATGTTT  
TTCAGAAAGTGTTGTGAAGAGCGAAGACTTTTCGCTCCAGCTTATATGGATCGGCGTGACCACCCCTTGCCGGA  
GGTGGCCCATGTCAAGCACCTGTCTGCCAGCCAGAAGGCATTGAAGGAGAAGGAGAAGGCCTCTGGAGCAGCCT  
CTCCATGGATGAGAAAGTCGAGTGTGGGTATTGAAGGGACCCACAGGCGCGCCAGCAGCTCTCGGAAGCGTGTG  
TGTGACAGAGCCTCTGCTCACTTCTGGGCCTACTGTCTAGAGGCAGTCTTGACAGGAGGGTTGCTCTGCTGGGT  
TTGGGGTCACTGTGCCAGGGCCCCAGTTTATGTGCTCACCAGTCACCTAGCTCTGCCAGCTGACAGGATCTTTT  
GCTAGGCCCCCTTCTCTGTGCTGAGTGGAGGTAGCCTCTCAGCATATCTGCTGGGTAAGACATAGTTAACTGTAA  
ATTATTGAAAGAACTCAGCAAAATGCATAGTGTGTTGGTATGAAAGGGGCAGAAAAATAACAAGATTAAATAGAC  
CCTAATACTGTAATTCAAGTAAGAAATAATTTGCAGTTTTAATTTGCACCTGAAGCGAAGTGTATGCATTTTCT  
TCTTTCTTGCCTGTACATGCCTGCGTGGGCACGTGTGTGCACGTACGTGCGTGAACATGATGTGCCTGGGT  
TGGTGTATCCTTCAGCTCTGTGTTTCTCCTTCACAAGTGTGGTTTTGGGGAGAAGTGGTTGAATGTTGCAGAGG  
AGGGAGCTGCTGACCTTTGTGCCTGTAAATGGCTGTCTCTGCCCCAGTGTATCGCATTAAGTTCAAGGAGA  
GCTTTGCTGAGATGAACAGGGGCTCGAACGAGTGAAGACGGTTGTGGGCGGTGCCATGTTCTTCATCGGTTTTCA  
CCGCGCTCGTTATCATGTGGCAGAAGCACTATGGTGAAGTAGAGAGGGAGGAAGGCATGGGCGCTGGACTGGGGC  
TCCAGCCTGCAGTGCCCATTTGGTGGGCTGTGCGGGACCTCCATACCTTGAGGCTATGAGATAGGGACTGCATTCC  
AGAGTTTATCTCAGGATTGTTTCCAGGCTTGGTGACCTGGAGAAGTGAAGTCGTGGGAGGTTAGTTTATAAGCC  
AGCATCTGATTATTCATAGCCATGCTTGTGGGTGGTGAATACCTTAACTACTTTGTACAGCACACCACGTTTT  
CAGTAGCAATTTATGTGCTCACCAGTCACTTAGCGAAAGATGACTTCGTGAAGGTTTCGAGCAAGGATAAGGGGAC  
TCATTCAATTGAATGACTGTCTGGACTGTTGTGAGGACTGCATCTCAACAGCCAGCATCTGGGGGTCCCCGACCTGA  
TAGTTTGTGTGTGGGCATTGCCGGGTGCTCGCTCGTGGTAAATGACTCTTCCCCGAGGTTCTTCTGTCCAGGCA  
GAACAGGCATTTTTGCATTCTGAATAGGTATATTTCTCGTACTTTTGGTTTTGAATGTGGATGTGGGTTAATAACAG  
ACCCGAATCTATTTGATCTTCCAGGTACCTTGGGCTCTGTTTGTGAGATCCTGTTATCCATAGCCTTTAGAGAG  
GACCTTCTGCTTTTAGCTTATTTTGTGCTAACTTTTTACAAACAAAGGGCTAATTTTTAAATGTCAGTGTTGTC  
AGTGGTCAGAAACCGTGTGTTTGTGAGCGGGTGTGAGTGGCAGGTGGCTCTGCTGACCTGGTGGCTGCTGTCGG

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**FIGURE 4616B**

GAGGATTTAACCTGTGTGAGGGATTGGCCTAGAAACAACCTGTTGAGATAGTCTTGCCCCATAACCTGTCTCACA  
CCGTAGTGACGGCCCCCTCCCGCAAAGCTTTGACAAAGAGTGGGTGGCCAAGCAGACCAAGAGGATGCTGGACA  
TGAAGGTGAACCCCATCCAGGGCTTAGCCTCCAAGTGGGACTACGAAAAGAACGAGTGGAAGAAGTGAGAGATGC  
TGGCCTGCGCCTGCACCTGCGCCTGGCTCTGTCACCGCCATGCAACTCCATGCCTATTTACTGGAAACCTGTTAT  
GCCAAACAGTTGTACCAC TGCTAATAAATGACCAGTTTACCTG

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**FIGURE 4617**

GCCGTTTTCTTTCTGTTGTCCTGTCGCGGCTTGGGACCCGGCAAGATGGGCAAGAAGGGCAAGAAGGAGAAGAA  
GGGCCGCGGCGCGGAGAAAGACGGCCGCCAAGATGGAGAAGAAGGTGTCTAAGCGCTCGCGGAAGGAGGAGGAAGA  
CCTGGAAGCGCTCATAGCCCATTTCCAGACACTCGATGCCAAGAGGACTCAGACTGTGGAACCTCCGTGCCCCC  
ACCCTCACCAAGGTTAAATGCCTCCCTCTCGGTTTCATCCTGAGAAAGATGAGTTAATCCTTTTTTGAGGTGAATA  
TTTCAACGGCCAAAAAACTTTTTTGTATAACGAGCTCTATGTCTACAATACCAGAAAAGGACACCTGGACCAAAGT  
TGACATCCCCAGTCCACCTCCGAGGCGCTGTGCTCACCAGGCGGTGGTAGTGCTCAAGGTGGCGGACAGCTGTG  
GGTCTTTTGAGGGGGAGTTTGCCTCTCCCAACGGAGAGCAGTTCTACCACTACAAGGATCTCTGGGTCTGCATTT  
GGCCACCAAGACCTGGGAACAAGTCAAATCAACAGGCGGTCTTCGGGTGCGAGTGGACATCGGATGGTGGCCTG  
GAAGAGACAATTGATCCTGTTTGGTGGCTTCCATGAAAGTACACGGGATTACATCTACTACAACGACGTGTATGC  
CTTTAATCTGGACACCTTCACATGGAGCAAGCTGTCCCGTCAGGGACGGGGCCACACCCAGATCAGGCTGCCA  
GATGTCCGTCCTCCCAAGGGCGGCATCGTCGTCTATGGGGGCTACTCGAAACAGAGAGTTAAGAAAGACGTGGA  
CAAGGGCACACGGCACTCAGACATGTTCTGCTGAAGCCAGAGGACGGAAGAGAAGACAAGTGGGTTTGGACTCG  
GATGAACCCCTTCGGGGGTCAAGCCACCCACGGTCTGGCTTTTCCGTGGCCATGGCCCCGAATCACCAGACACT  
GTTCTTCGGGGGTGTCTGTGACGAGGAAGAGGAGGAGAGCCTGTGCGGCGAGTTCTTCAACGATCTGTACTTCTA  
CGACGCCACCAGGAACCGTTGGTTTGAGGGACAGCTGAAGGGACCCAAGTCTGAAAAGAAGAAACGCAGGCGGGG  
CAGAAAAGAGGAGCCCGAAGGTGGTAGCAGGCCGGCGTGTGGGGGAGCTGGCACCCAGGGGCCTGTGCAGCTGGT  
CAAGGAGGTGGTGGCCGAGGATGGCACCGTGGTACCATTAAAGCAGGTGCTCACCGCGCCAGGCTCGGCGGGGCA  
GCCCCGGTCTGAGGACGAAGACAGCCTTGAGGAGGCCGGCAGCCCCGCACCTGGGCCGTGTCCACGCTCCAACGC  
CATGCTGGCTGTGAAGCATGGGGTGTCTACGTCTATGGGGGCATGTTTGAGGCCGGCGACCGCCAGGTACCCCT  
CAGCGACCTGCACTGCCTGGACCTGCACAGGATGGAGGCGTGGAAGGCCTTGGTGGAGATGGACCCAGAACTCA  
GGAGTGGCTGGAGGAGACGGACTCGGAAGAGGACAGTGAGGAGGTTGAGGGCGCCGAGGGTGGGGTGCACGACGA  
AGACAGCGGAGAGGAGAGCGGTGCGGAGGACTGAGAAGAGCCCCCTGCCAGGGGCGCCTGGCAAGTGCTGTGCCCA  
CGTCCGCCCAGGACCCAGCCGTGTTGAGTGAAGCTCTTGGGGCCAGCGTGCCTGACGCACAGGAGAGAGCTG  
AAGGTGGGTGGCCAGGCCAGGGTGTGAACCTTTCTCCATGGTTTAGTCTCTGACGCGGCACTGGGCCGGAAGTT  
CAACTGAGTGCAGTGCAGGTGGATTCCCTCAGCAGCCTGTGTGTTGTGTGAAATAAAATTGGACTTGAAACAAGAA  
AAAAAAAAAAAAA

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**FIGURE 4618**

MGKKGKKEKKGRGAEKTAAKMEKKVSKRSRKEEEDLEALIAHFQTLDAKRTQTVELPCPPPSPRLNASLSVHPEK  
DELILFGGEYFNGQKTFLYNELYVYNTRKDTWTKVDIPSPPPRCAHQAVVVPQGGGQLWVFGGEFASPNGEQFY  
HYKDLWVLHLATKTWEQVKSTGGPSGRSGHRMVAWKRQLILFGGFHESTRDYIYYNDVYAFNLDTFTWSKLSPSG  
TGPTPRSGCQMSVTPQGGIVVYGGYSKQRVKKDVKGTRHSDMFLLKPEDGREDKWVWTRMNP SGVKPTPRSGFS  
VAMAPNHQTLFFGGVCDEEEESLSGFEFFNDLYFYDATRNRWFEGQLKGPKSEKKKRRRGRKEEPEGGSRPACGG  
AGTQGPVQLVKEVVAEDGTVVTIKQVLTAPGSAGQPRSEDEDSLEEAGSPAPGPCPRSNAMLAVKHGVLYVYGGM  
FEAGDRQVTLSDLHCLDLHRMEAWKALVEMDPETQEWLEETDSEEDSEEVEGAEGGVDDDEDSGEESGAED

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**FIGURE 4619**

GGCTGTGACTAGCGGGCCGGCCCGGGCCAGGACAGCGGGCGGGCGGGCGGGCGGGCCTGGCCCCGGGATGGCTAT  
GTTCCGCAGCCTGGTGGCCTCGGCTCAGCAGCGGCAGCCGCCGGCCGGGCGGGCGGCGACAGCGGCCTGGA  
GGCGCAGTACACCTGCCCCATCTGCCTGGAGGTCTATCACCGGCCCGTGGCCATCGGCAGCTGCGGCCACACGTT  
CTGCGGGGAGTGTCTCCAGCCCTGCCTGCAGGTGCCATCCCCGCTGTGCCCACTGTGCCGCATGCCCTTCGACCC  
CAAGAAGGTGGACAAGGCCACCCACGTGGAGAAGCAGCTCTCATCCTACAAAGCGCCCTGTGAGGGCTGCAACAA  
AAAGGTGACCCTGGCAAAGATGAGAGTGCACATTTTCGTCTGCCTGAAGGTCCAGGAGCAGATGGCCAACCTGCCC  
CAAGTTTCGTCCCCGTGGTGGCCACATCACAGCCTATCCCCAGCAACATCCCCAACAGGTCCACCTTCGCCTGCCC  
GTACTGTGGTGGCCGCAACCTGGACCAGCAGGAGCTGGTGAAGCACTGTGTGGAAAGCCACCGCAGCGACCCCAA  
CCGCGTGGTGTGCCCCATCTGCTCGGCAATGCCCTGGGGGGACCCAGCTACAAGAGCGCCAACCTTCCTGCAGCA  
CCTGCTTCACCGACACAAGTTCTCCTACGACACCTTTGTGGACTACAGTATTGACGAGGAGGCCGCTTCAGGC  
TGCTCTGGCCCTGTCTCTCTCTGAGAACTGAAAGGGAAGCGCAGCCACCCGCTGCGTCTGGGGTCAGGGATGTCC  
CCGCTCCTGTGTGCGACCTGGCACCTGCTCGGGAGTGCACCTCACCGGACTGAGCTCACAGGAGGAGCCTGCACC  
CGCGCAGAAGGGGAGCCGGGGCCGAGCCTCCGGGCCTGAATACGGGCCAGCCGCCGAGGCCGCCAGAGCAGGGCC  
GCCTGGTCCACCGGCGTCGCTGGGTTCCTTCGGTGTCTTGGCCGAGCAGGCGGCCTACTTGGGCAGGGCTGGAC  
GCTGAGACCTGGAGCTGCCACCGTCTCTTCAAGCCATGATACCCCTCGTGGGAAGAAGGGACCGACGCGCGAGT  
CGCGGCTGCGCAGTCGAGCCCGGGAGGAACCCAGGCTGCTGCCCTGGCCAGCCCGACCTGCCCCGGCCCCACTT  
CCACCTTGCGCATTTGGTACTGGCTTTTGTGATACTTAGGAACCCTGGCATCTTTTCTATATTATCCAGTGTGAT  
AATCTTTTCACGTTTTATAGAGCAAAGACAGAGCAGTTACTCTTCATATTGCAATATCTGTGTTTGACTAGGAAT  
AATAGTATTTTTATGGAACATTTACAAAATTATATTTTTTAAGAAAACAATCAAAACAAGCATTGGGGGATTGGG  
GCAAGGATGGAAGGAGCAGTGGGGCAGCTGCCAGAGCTCAGGCGAGCCATGGGGTCTGCTGTGGGGTCTGCCCTG  
GCCACCCACTGTGTGTCTGGGTCTTGAGGTTTGTACGTTTCTCTTTGATGACCAGGAAGAAATCCCAGCACCCC  
AGCCACAGGCTGTGGCTGCTCCCAGCAGAGGCGGGGCCGGCAGAGAAGGGGCCTCCTCCACCCAGAGTCCTGGCC  
TTGGCCCGCTGTACCTTCAAAGCTGACTGTGCCCCGCTGCGGGAGGGGACGGCACCCAGTGGTGGCAGAGCTT  
GGGGGCCTGGGCAGGGGCCCGCTTGGCGGGCCGGGAACACGTCAACATTCTTTTCTGTTCTTGGCATTAAATTAT  
TGCTGTCTTTTTTTTTAAAAAAAAGTTTAAATAAAATGTCTCAGAGC

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**FIGURE 4620**

MAMFRSLVASAQQRQPPAGPAGGDSGLEAQYTCPICLEVYHRPVAIGSCGHTFCGECLQPCLQVPSPLCPLCRLP  
FDPKKVDKATHVEKQLSSYKAPCRGCNKKVTLAKMRVHISSCLKVQEQMANCPKFVPVVPVTSQPIPSNIPNRSTF  
ACPYCGARNLDQQELVKHCVESHRSDPNRVVCPICSAMPWGDP SYKSANFLQHLLHRHKFSYDTFVDYSIDEEAA  
FQAALALSLEN

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**FIGURE 4621**

CTCCGACGTCATCGGGGCGCGCCCTCGCGCTGTGCGCGCCACAGTCTGCGACGGGACCCGGCGTGCCCATGTGTC  
AGGTGGGCGAGGACTACGGGGAGCCGGCGCCTGAGGAGCCGCCCCGGCGCGCGGGCCAGGGACTGTTTCAAGG  
CCTTCTACGTCCACAAGTTTCAGAGCCATGCTGGGCAAGAACCGGCTCATCTTTCCAGGCGAGAAGGTGCTCTTGG  
CGTGGTCTGGGGGGCCTTCGTCCAGCTCCATGGTCTGGCAGGTTCTTGAGGGCCTGAGCCAAGATTCTGCCAAAA  
GACTGCGCTTTGTGGCAGGAGTCATCTTTGTTGACGAGGGAGCAGCCTGTGGCCAGAGCCTAGAGGAGAGATCAA  
AGACCCTGGCCGAAGTGAAGCCCATTCTGCAAGCAACTGGGTTCCCATGGCATGTGGTGGCCTTAGAGGAGGTGT  
TCAGCCTGCCACCGTCGGTGCTTTGGTGCTCTGCCCAGGAGCTAGTGGGATCCGAGGGGGCCTACAAGGCGGCCG  
TGGACAGCTTTCCTCCAGCAGCAGCATGTGCTGGGGGCGGGGGTGGTCTTGGCCCGACTCAAGGGGAGGAACAGC  
CACCCAGCCCCCGCTGGACCCCCAGAACCCTGGCAAGACCGCCTGCCCCTGCCCAGACTGAGGCTCTTTCCCAAC  
TGTTCTGCTCAGTGAGGACACTGACTGCCAAGGAGGAGCTTCTGCAGACCCTGCGGACCCACCTGATCCTCCACA  
TGGCCCGAGCCACGGCTACTCCAAGGTCATGACTGGGGACAGCTGCACACGCTTGGCTATCAAGCTCATGACCA  
ACCTGGCGCTGGGTGAGGGGGCCTTCCTGGCCTGGGATACGGGCTTCTCGGATGAGCGGCACGGGGACGTGGTGG  
TGGTGC GGCCCATGCGGGACCACACCTGAAGGAGGTGCGTTTCTACAACCGCCTGTTCTCTGTTCTCTGTCT  
TCACACCAGCCGTCGACACCAAGGCCCTGAAAAGGCCAGCATCCACCGGCTGATGGAGGCCTTCATCCTCAGGC  
TGCAGACCCAGTTCCCTCCACTGTCAGCACTGTGTACAGGACAAGTGAGAAGCTGGTGAAGGGCCCCGGGATG  
GCCCTGCTGCTGGCGACTCCGGCCCCCGCTGCCTCCTCTGCATGTGTGCCCTGGACGTCGACGCCGCTGACAGTG  
CCACGGCTTTTGGGGCTCAGACCTCCTCGCGTCTCTCCAGATGCAGTCACCCATCCCCCTGACTGAGACCCGGA  
CACCCCGGGGCCCTGCTGTTCTCCAGGGGTGGGCTGGGCCAGCGCTGCGGCCAGGGGGCCTGTAGGAGGGAGG  
ACCCCAAGCCTGCATTGAGGAGCAGCTGTGCTACAGCTGCCGCGTGAACATGAAGGACTTGCCCTCACTGGACC  
CCCTGCCGCCGTACATCCTGGCTGAGGCCAGCTCCGCACACAGAGGGCCTGGGGCTTGACAGGAGATCCGGGACT  
GTCTGATTGAGGACAGTGACGACGAGGCGGGCCAGAGCTGAGCGTGAGGACGTGCTTGCCGGGACAGCAGGCAGT  
GGCCACCTGGTACACCACACTGGAGCCGGAAGGCAAGGACGGGGACTGGCCTCTGATTGTCCATTTGTATAAAT  
AAAACATTTTTTAATT

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**FIGURE 4622**

CGCGCACTCCGCCGCCATGGAGCAGCGCCGCGTACCGCACTTCTTCGCGCGCCGCCGCCCGGCCCGCCCGCGCAT  
CGCGGCGCCCCAAGCTGGCCTGCCGCACCCCCAGCCCCGCCAGGCCCGCACTCCGCGCCCCGGCCTCCGCTACCAG  
TGGCAGCCGCAAGCGCGCCCCGCCCGCCCGCCGCCCGGACGCGACCAGGCCAGGACACCGGCCCGCAGGAGACT  
GCGGCTGTTCGGTGGACGAGGTTTCCAGCCCCAGTACCCCCGAGGCCCGAGACATCCCAGCCTGCCCTTCTCCGGG  
CCAGAAGATAAAAGAAATCCACCCCCGGCAGCAGGTACGCCGCCCCACCTGACATCCGCGCAGGACCAGGACACCAT  
CTCTGAGCTTGGCTCATGCCGTGCAACGGGCCCGGGAGCTGGGGGCAAGAGTCCGGGCGCTGAAGGCCAGTGCCCCA  
GGATGCTGGGGAGTCTTGACCCCCAGAGGCCGAGGGCCGCCCTGAGGAGCCATGTGGCGAGAAGGCGCCCGCCTA  
CCAGCGCTTCCATGCCCTGGCCCCAGCCCGGCCTGCCGGGACTCGTGCTGCCCTACAAGTACCAGGTGCTGGCGGA  
GATGTTCCGCAGCATGGACACCATCGTGGGCATGCTCCACAACCGCTCCGAGACGCCACCTTTGCCAAGGTCCA  
GCGGGGCGTCCAGGACATGATGCGTAGGCGTTTTTGGAGAGTGCAATGTTGGCCAGATCAAAACCGTGTAACCGGC  
CTCCTACCGCTTCCGCCAGGAGCGCAGTGTCCTCCACCTTCAAGGATGGCACCAGGAGGTGAGATTACCAGCTCAC  
CATCGAGCCACTGCTGGAGCAGGAGGCTGACGGAGCAGCCCCCAGCTCACGGCCTCGCGCCTCCTGCAGCGAGC  
GCAGATCTTCAGCCAGAAGCTGGTGGAGCATGTCAAGGAGCACCACAAGGCCTTCTGGCCTCCCTGAGCCCCGC  
CATGGTGGTGCCGGAGGACCAGCTGACCCGCTGGCACC CGCGCTTCAACGTGGATGAAGTACCCGACATCGAGCC  
GGCCGCGCTGCCCCAGCCACCCGCCACGGAGAAGCTCACCACTGCTCAGGAGGTGCTGGCCCGGGCCCGCAACCT  
GATTTACCCAGGATGGAGAAGGCCCTTGAGTCAATTGGCCCTGCGCTCTGCTGCGCCAGCAGCCCCGGGTCTCC  
CAGGCCAGCACTGCCGGCTACCCACCAGCCACCCGCGCTGCAGCCTCTCCAGTGCTCTGAAGGGGGTGTCCTCA  
GGATCTGCTGGAGCGGATCCGAGCCAAGGAGGCACAGAAGCAGCTGGCACAGATGACGCGGTGCCCGGAGCAGGA  
GCAGCGGCTGCAGCGCTTAGAACGGCTGCCTGAGCTGGCCCGCGTGCTGCGGAGCGCTTTTGTGTCCGAACGCAA  
GCCTGCGCTCAGCATGGAGGTGGCCTGTGCCAGGATGGTGGGCAGCTGTTGTACTATCATGAGCCCTGGGGAAAT  
GGAGAAGCACCTGCTGCTCCTCTCCGAGCTGCTGCCGGACTGGCTCAGCCTCCACCGCATCCGCACCGACACCTA  
CGTCAAGCTGGACAAGGCCGCGGACCTCGCCACATCACTGCACGCCCTGGCCCACCAGACACGTGCTGAGGAGGG  
GCTGTGAGCCTGGGGGGCACTGTGGACAGACGTGGGCTTCAGAAGCTCGCTGGCCTGGGGCCACCAGCATTTTCT  
TTTATGAACATGATACATTTGGCCTTCCCTTTCCCCAGCGCCCCCTGAGGGCCAGAGGCAGATGTGGGCTGCAGG  
TGCACAGCCCAGGGGTCTCTGGCTGCGGGCGGTGGGCCCTTCATGGGGCTCACCTGGTGGATTACATTAAACC  
GGTTTCTGTTTTGGC



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**FIGURE 4623**

MFRSMDTIVGMLHNRSETPTFAKVQRGVQDMMRRRFEECNVGQIKTVYPASYRFRQERSVPTFKDGTRRSYQLT  
IEPLLEQEADGAAPQLTASRLQRRQIFSQKLVEHVKEHHKAFLASLSPAMVVPEDQLTRWHPRFNVDEVPDIEP  
AALPOPPATEKLTTAQEVLARARNLISPRMEKALSQALALRSAAPSSPGSPRPALPATPPATPPAASPSALKGVSQ  
DLLERIRAKEAQKQLAQMTRCPEQEORLQRLERLPELARVLRVSVSERKPALSMEVACARMVGSCCTIMSPGEM  
EKHLLLLSELLPDWLSLHRIRTDITYVKLDKAADLAHITARLAHQTRAEEGL

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**FIGURE 4624**

AGCCCGGGGCAGCCAGCAGTACCGGGCCCTGACCGTGCCCGAGCTCACCCAGCAGATGTTGATGCCAAGAACAT  
GATGGCGCCGCATGTCCATGAAGGAGGTGGACGAGCAGATGCTGGCCATCCAGAGCAAGAACAGCAGCTACTTCG  
TGGAGTGGATCCCCAACAACGTGAAGGTGGCCGTGTGTGACATCCCGCCCCGCGGCCTCAAGATGTCTCTCCACCT  
TCATCGGGAACAGCACGGCCATCCAGGAGCTGTTCAAGCGCATCTCCGAGCAGTTACGGCCATGTTCCGGCGCA  
AGGCCTTCCTGCACTGGTACACGGGCGAGGGCATGGACGAGATGGAGTTCACCGAGGCCGAGAGCAACATGAACG  
ACCTGGTGTCCGAGTACCAGCAGTACCAGGACGCCACGGCCGAGGAAGAGGGCGAGATGTACGAAGACGACGAGG  
AGGAGTCGGAGGCCAGGGCCCCAAGTGAAGCTGCTCGCAGCTGGAGTGAGAGGCAGGTGGCGGCCGGGGCCGAA  
GCCAGCAGTGTCTAAACCCCCGGAGCCATCTTGCTGCCGACACCCTGCTTTCCCCTCGCCCTAGGGCTCCCTTGC  
CGCCCTCCTGCAGTATTTATGGCC

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**FIGURE 4625**

MAVQGSQRRLLGSLNSTPTAIPQLGLAANQTGARCLEVSISDGLFSLGLVSLVENALVVATIAKNRNLHSPMYC  
FICCLALSDLLVSGSNVLETAVILLLEAGALVARAAVLQQLDNVIDVITCSSMLSSLCFLGAIIVDRYISIFYAL  
RYHSIVTLPRARRAVAAIWVASVVFSTLFIAYYDHVAVLLCLVVFFLAMLVLMVLYVHMLARACQHAQGIARLH  
KRQRPVHQGFGLKGAVTLTILLGIFFLCWGPFFLHLLTLIVLCPEHPTCGCIFKNFNFLALIIICNAIIDPLIYAF  
HSQELRRTLKEVLTCSCSQDRALVSWDVKSLGGSVCQELLPOQPQEKGLCDQKASSTALQRLLOKEFWVISDEH  
GIDPSGNYVGSDSLQLERISVYYNEASSHKYVPRAILVDLEPGTMDSVRSGAFGHLFRPDNFIFGQSGAGNNWAK  
GHYTEGAELVDSVLDVVRKECENCDCLOGFQLTHSLGGGTGSGMGTLISKVREEYPDRIMNTFSVVPSPKVSDT  
VVEPYNATLSIHQLVENTDETYCIDNEALYDICFRTLKLATPTYGDLNHLVSATMSGVTTSLRFPQGQLNADLRKL  
AVNMVPFPRLHFFMPGFAPLTARGSQQYRALTVPELTQQMFDAKNMMAACDPRHGRYLTIVATVFRGRMSMKEVDE  
QMLAIQSKNSSYFVEWIPNNVKVAVCDIPPRGLKMSSTFIGNSTAIQELFKRISEQFTAMFRRKAFLHWYTGEGM  
DEMEFTEAESNMNDLVSEYQQYQDATAEEEGEMYEDDEEESEAQGPK

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**FIGURE 4626**

GGAGAGGGTGTGAGGGCAGATCTGGGGGTGCCCAGATGGAAGGAGGCAGGCATGGGGGACACCCAAGGCCCCCTG  
GCAGCACCATGAACTAAGCAGGACACCTGGAGGGGAAGAACTGTGGGGACCTGGAGGCCTCCAACGACTCCTTCC  
TGCTTCCTGGACAGGACTATGGCTGTGCAGGGATCCCAGAGAAGACTTCTGGGCTCCCTCAACTCCACCCCCACA  
GCCATCCCCCAGCTGGGGCTGGCTGCCAACCAGACAGGAGCCCGGTGCCTGGAGGTGTCCATCTCTGACGGGCTC  
TTCCTCAGCCTGGGGCTGGTGAGCTTGGTGGAGAACGCGCTGGTGGTGGCCACCATCGCCAAGAACCGGAACCTG  
CACTCACCCATGTACTGCTTCATCTGCTGCCTGGCCTTGTCGGACCTGCTGGTGAGCGGGAGCAACGTGCTGGAG  
ACGGCCGTCATCCTCCTGCTGGAGGCCGGTGCACTGGTGGCCCCGGGCTGCGGTGCTGCAGCAGCTGGACAATGTC  
ATTGACGTGATCACCTGCAGCTCCATGCTGTCCAGCCTCTGCTTCCTGGGCGCCATCGCCGTGGACCGCTACATC  
TCCATCTTCTACGCACTGCGCTACCACAGCATCGTGACCCTGCCGCGGGCGCGGCAAGCCGTTGCGGCCATCTGG  
GTGGCCAGTGTCGTCTTCAGCACGCTCTTCATCGCCTACTACGACCACGTGGCCGTCTCTGCTGTGCCTCGTGGTC  
TTCTTCCTGGCTATGCTGGTGCTCATGGCCGTGCTGTACGTCCACATGCTGGCCCGGGCCTGCCAGCACGCCCCAG  
GGCATCGCCCGGCTCCACAAGAGGCAGCGCCCGGTCCACCAGGGCTTTGGCCTTAAAGGCGCTGTCAACCTCACC  
ATCCTGCTGGGCATTTTCTTCCTCTGCTGGGGCCCCCTTCTTCCTGCATCTCACACTCATCGTCTCTGCCCCGAG  
CACCCACGTGCGGCTGCATCTTCAAGAACTTCAACCTCTTTCTCGCCCTCATCATCTGCAATGCCATCATCGAC  
CCCCTCATCTACGCCTTCCACAGCCAGGAGCTCCGCAGGACGCTCAAGGAGGTGCTGACATGCTCCTGGTGAGCG  
CGGTGCACGCGCTTTAAGTGTGCTGGGCAGAGGGAGGTGGTGATATTGTGTGGTCTGGTTCCTGTGTGACCCCTGG  
GCAGTTCCTTACCTCCCTGGTCCCCGTTTGTCAAAGAGGATGGACTAAATGATCTCTGAAAGTGTGAAG

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**FIGURE 4627**

MAVQGSQRRLIGSLNSTPTAIPQLGLAANQTGARCLEVSI SDGLFSLGLVSLVENALVVATIAKNRNLHSPMYC  
FICCLALSDLLVSGSNVLETAVILLLEAGALVARAAVLQQLDNVIDVITCSSMLSSLCFLGAI AVDRYISIFYAL  
RYHSIVTLPRARQAVAAIWVASVVFSTLFIAYYDHVAVLLCLVVFFLAMLVLMVLYVHMLARACQHAQGIARLH  
KRQRPVHQGFGLKGAVTLTILLGIFFLCWGPFFLHLLIVLCPEHPTCGCIFKNFNLFALALIICNAIIDPLIYAF  
HSQELRRTLKEVLTCSW

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**FIGURE 4628**

GCATAGGCTAGGTAGCGAGGCCGCGTGTGAATCGGCCGAGGCCGAGTTTCTGCGCTTCCTTCTCCCTCTCTCCAG  
ACGTCTGTTGTCGTTTCGGTCCTATGTCGCGCCGGGCCCTCCGAGGCTGAGGGGGGAACAGCGCGGCCAGGAGCCC  
CTCGGGCCCCGGCGCCTTGCAATTCGATCTCCGTGATGACGATGACGCGGAAGAAGAAGGGCCCAAGCGGGAGCTT  
GGTGTCCGGCGTCCCGGGGGCGCAGGGAAGGAGGGCGTCCGAGTCAACAACCGCTTCGAGCTGATAAACATTGAC  
GATCTTGAGGATGACCTGTGGTGAACGGGGAGAGGTCTGGCTGTGCGCTCACAGACGCTGTGGCACCAGGGAAC  
AAAGGAAGGGGTCAGCGTGGAAACACAGAGAGCAAGACGGATGGAGATGACACCGAGACAGTGCCCTCAGAGCAG  
TCTCATGCAAGTGGCAAACCTCCGGAAGAAGAAAAAACAAGAAAAGCAGCACGGGAGAAGCATCG  
GAAAACGGACTAGAAGATATCGATCGCATCTAGAGAGGATTGAGGACAGCACTGGGTTGAACCGTCCCGGCCCA  
GCTCCCTGAGCTCCAGGAAGCACGTTCTCTACGTGGAGCACAGACACTTGAATCCAGACACAGAACTGAAAAGG  
TATTTTGGTGCCCGGGCAATCCTGGGGGAGCAAAAGGCCACGGCAGAGACAACGTGTGTACCCCAAGTGACATGG  
CTGACCACCCCTAAAAGCACCTGGCCCCGCTACAGCAAAACCAGGTCTGTCCATGCGGCTGCTGGAATCAAAAAA  
GGCCTCTCCTTCTTTGCGTTTGAGCACAGTGAGGAGTACCAGCAGGCTCAGCACAAAGTTTCTGGTGGCCGTGGAG  
TCTATGGAGCCGAACAACATCGTGGTTCTGCTCCAGACGAGCCCTTACCACGTTGACTCACTCCTGCAGCTCAGC  
GATGCCTGCCGCTTTCAAGAGGATCAGGAGATGGCTCGAGACCTCGTAGAGAGAGCGCTGTACAGCATGGAATGT  
GCGTTCCACCCCTGTTTCAGTCTCACCAAGTGGGGCCTGCCGGCTGGATTACCGCAGACCCGAGAAGCAGGAGCTTC  
TACCTGGCCCTCTACAAGCAGATGAGCTTCCTGGAGAAGCGAGGCTGCCCGCGCACGGCGCTGGAGTACTGCAAG  
CTCATCTGAGTCTCGAGCCGGATGAGGACCCCTCTGCATGCTGCTGCTCATCGACCACCTGGCCTTGCGGGCC  
CGGAACCTACGAGTACCTGATCCGCCTCTTCCAGGAGTGGGAGGCTCATCGGAACCTGTCCAGCTCCCTAATTTT  
GCCTTCTCTGTTTCCACTGGCGTATTTCTGCTGAGCCAGCAGACAGACCTCCCTGAGTGTGAGCAGAGCTCTGCC  
AGGCAGAAGGCCTCTCTCTGATACAGCAGGCGCTCACCATGTTCCCTGGAGTCTCCTGCCCTGCTCGAGTCT  
TGCAGTGTGCGGCCCGACGCCAGCGTTTCCAGTACCGCTTCTTTGGACCCAATGCTGAAATAAGCCAGCCCCCT  
GCCCTGAGCCAGCTGGTGAACCTGTACCTTGGGAGGTCACACTTTCTCTGGAAAGAGCCCGCCACCATGAGCTGG  
CTGGAGGAGAAGCTCCACGAGGTTCTGCAAGCAGTGAGCGCCGGGGACCCAGCCGTGGAAGCCTGTGAGAACCGG  
CGGAAGGTGCTCTACCAGCGTGCACCCAGGAATATCCACCGCCATGTGATCCTCTCTGAGATCAAGGAAGCCGTC  
GCTGCCCTGCCCCCGGACGTGACCACGCAGTCTGTGATGGGGTTTGATCCTCTGCCTCCTTCGGACACAATCTAC  
TCCTACGTCAGGCCAGAGAGGCTAAGTCCTATCAGCCATGGAAACACCATTGCTCTCTTCTTCCGGTCACTGTTG  
CCAACTATAACCATGGAGGGGGAGAGGCCCGAGGAAGGAGTGGCTGGGGGTCTGAACCGCAACCAGGGCCTGAAC  
AGGCTGATGCTGGCTGTGCGCGACATGATGGCCAACTTCCACCTCAACGACCTGGAGGCGCCGCACGAGGACGAC  
GCTGAGGGGGAGGGGGAGTGGGACTGAGCGTCCGAGAGGTGACCGAAAAGCCGTATGATGATGTTCCCGATTTCT  
TCTGTTGGTTCGGAGTCGGCCAGTTGCCTGAAGTAGGGAAGCTGAGTGTGTCGCTCCCTGGTCCACTGTTTCTCCT  
ATAAATGTAAATGGGTC

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**FIGURE 4629**

MSRRALRRLRGEQRGQEPLGPGALHFDLRDDDDAEEEGPKRELGVRRP GGAGKEGVRVNNRFELINIDDDLEDDPV  
VNGERSGCALTDVAPGNKGRGQRGNTESKTDGDDTETVPSQSHASGKL RKKKKKQKNKKSSTGEASENGLEDI  
DRILERIEDSTGLNRPGPAPLSSRKHVLYVEHRHLNPDTELKRYFGARAILGEQRPRQRQRVYPKCTWLTPKST  
WPRYSKPGLSMRLLESKKGLSFFAFEHSEEYQQAQHKFLVAVESMEPNNIVVLLQTSPYHVD SLLQLSDACRFQE  
DQEMARDLVERALYSMECAFHPLFSLTSGACRLDYRRPENRSFY LALYQMSFLEKRGCPRTALEYCKLILSLEP  
DEDPLCMLLLIDHLALRARNYEYLIRLFQEWEAHRNLSQLPNFAFSVPLAYFLLSQQTDLPECEQSSARQKASLL  
IQQALTMFPGVLLPLLESCSVRPDASVSSHRRFFGPNAEISQPPALSQLVNLYLGRSHFLWKEPATMSWLEENVHE  
VLQAVDAGDPAVEACENRRKVLYQRAPRNIHRHVILSEIKEAVAALPPDVT TQSVMGFDPLPPSDTIYSYVRPER  
LSPISHGNTIALFFRSLLPNYTMGERPEEGVAGGLNRNQGLNRLMLAVRDM MANFHLNDLEAPHEDDAEGEGEW  
D

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**FIGURE 4630**

ATGGTGACGCACGCCGCTGGCGCGAGGACCTTTTGTGAGGAGCAAAAGAAGGGATCCACCTATTTCAGTTCCAAAA  
TCTAAGGAGAAGTTGATGGAGAAGCATTCCCAGGAAGCCAGGCAGGCAGACAGGGAGTCGGAGAAGCCTGTGGAC  
AGCCTCCACCCGGGGGCCGGGACAGCCAAGCACCCGCCGCCGGCAGCTTCGCTGGAAGAGAAACCTGATGTAAAG  
CAAAAGTCCAGCAGGAAGAAAGTGGTCGTTCCACAGATCATCATCACGCGAGCGTCGAATGAGACGCTAGTCAGT  
TGCAGTTCCAGCGGGAGTGACCAGCAGAGAACCATTCTGGGAGCCGGAGGACTGGGGCCCCCTACCGGCCGGCACAGG  
AACCCCAGTACAGCAGACGCCTATAATTACATCTCAAAGAATTAACAAGCACCTTTGCATGGCACTCGCTACTC  
CCTGCGATAGGCGTCTCGGGAACAGCCGCCTCACCTGTGAGAAGCCGAGGCCCTTCTCCAGTGCTCTCGGGGA  
GGTTGCACCAGGCCACCCACCCCTGTGAGAACTGCAGCCCCCTTCTCCAGTGCTTTCGGGGAGGGTGCACCAG  
GCCCCCCCCACCTTGTGAGAAGCCGTGGCCCCCTTCTCCAGTGCTCTCAGGGAGGGTGCACCAGGCCCTGCCCCG  
CCGTGAGAACTGCAGTCCCCCTTCTCCAGTGCTCTCGGGGAGGGTGCACCAGGCCACCCACCCCTGTGAGAACC  
TGCAGCCCCCTTCTCCATGCTCTCGGGGAGGGTACACCAGGGTTGCCCCACCCCTGTGAGAAGCCACCGCCCCCT  
TCTCCAGTGCTCTCGGGGAGGGTGCACCAGGGCTGCCCCACGCTGTAAGAAGCCGCCGCCCTTCTCCAGTGCT  
CTCCAGCCCCCCCCACCCCTGTGAGAAGCCATGGCCCCCTTCTCCAGTGCTTTTGGGGAGGGTGCACCAGGGCCACC  
CCACCCCTGTGAGAAGCCGTGGCCCCCTTCTCCAGTGCTTTTGGGGAGGGTACACCAGGCCCGCCCCACCCCTGTGA  
GAAGCCGTGGCCCCCTTCTCCCGTGCTCTCAGGGAGGGTGCACCAGGCCCTGCCCCGCCTTGAGAACTGCAGCC  
CCCTTCTCCAGTGCTCTGGGGGAGGGTGCACCAGGCCCTGCCACCCCTGTGAGAACTGCACCCCTTCTCCAGTG  
CTCTCGGGGAGGGTGCACCAGGCCCGCCCCACCCCTGTGAGAAGCCGCAGCCCGTTCTCCATTGCCATTGTGGTCTT  
GCCTTCCCCAGAGCTGCTAGCAGCTCGGTGAGGCAAGAGTGACTGGCTCAGAGAGCGAGCTTTGTGGTATTGAT  
AAATGAATAAATTAGTATGTTTCATGTTGGAAGTGGCTGGCTCTGCAGAGTGATGGACAGCAGGTGGCATCTTACA  
TTGTGATTTGTGGTGCACAGTTAAAACACTTCCCTTCGTTTCAGAAGGAGACAATGTGAATACTTGGAATTATA  
GTGAATAAGATGCCTCCCAAACCTTGAGGAAAAGGTGAGATTCTAAGAGCTAAACGTTAAGATGTAATGTTCCAGA  
ACAAAGAGGCCCAGAGTCACTGAACGGGGCCCCAGGGCTCCTAGCTTGAGTGTAACTGAGTCAGCTTATGAAAA  
GGCCCCAAAGAAGAAAGTGAATGTGTGCTGGGCACATGGGACAGCCATGGCACTGAGACTTTGGAAGTGGCCTT  
GCCAGCGCTGTCCTGTCTTTCTGGCCACAGATGAGGGCTCCTGATTGTGGAAGGCCACGGAAGGGACCTGAACA  
CGATGGCACGAGACAAGTTATCTCCTGTGACTGCTCCTCTCCAGCAACCCTCAGCTCAGGCTAGACTTTCCCCCT  
GTGTTGAGAATGCCCTGCCCTGTGTGGAAGCCTGATGCATTTAGTGACAGTGTTAGCTTTGTTAGTTTCTAGT  
CTGGCCAGCAGGCTTTCCATGTGATCTGCCATTGGCTTGCTTCAGTGGCCAGTGGAGCCAGGGGTGTCCACCAGA  
GTCTTGGACACAGACTTCTGAGGTGGCAGCGGGAGGGAGCCTGCTCCCTGCCACACACGTACAATTTCTAATCCA  
TACAGGCCTATGTAGTATATACACACATACGCAGAGCCTTAGGAATTGTGAAAGGCCAATCAAACTTGGGGCC  
TAATTTCACTCTGCC



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**FIGURE 4631**

MVTHAAGARTFCEEQKKGSTYSVPKSKEKLMKHSQEARQADRESEKPVDSLHPGAGTAKHPPPAASLEEKPDVK  
QKSSRKKVVPQIIITRASNETLVSCSSSGSDQRTIREPEDWGPYRRHRNPSTADAYNSHLKE

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**FIGURE 4632**

AGCGACTCACAAAAGGTCCTCGCGCCAGCGGCGTGCGTCACCATGGCGACCGCGCGCCGCGCAGCCGCGCCCCGC  
CCCTCTGGCGGGACCGGCCACCATCCTCTCGCGAGAGCATCCCGTGCAGCCGGAAGTGGGGCGGCGACCCCGGAA  
GTCCCCGCCGGGTGCAGCTTGGTTCGGTTCGATCGCCGCCGGGACCTGACACCGCCCGGAGTTGGCGTCCCTTCTC  
CCTCTCCGAGTGCTGCTCCTGTCAATTGTGGCCATGGACGTTACGGCGAAGCAGCTGGAGAAGCTGGCCAAGAAG  
GCGGAGAAGGACTCCAAGGCGGAGCAGGCCAAAGTGAAGAAGGCCCTTCTGCAGAAAAATGTAGAGTGTGCCCGT  
GTGTATGCCGAGAACGCCATCCGCAAGAAGAACGAAGGTGTGAAGTGGCTTCGGATGGCGTCCCGCGTAGACGCA  
GTGGCCTCCAAGGTGCAGACAGCTGTGACTATGAAGGGGTGACCAAGAATATGGCCCAGGTGACCAAAGCCCTG  
GACAAGGCCCTGAGCACCATGGACCTGCAGAAGGTCTCCTCAGTGATGGACAGGTTTCGAGCAGCAGGTGCAGAAC  
CTGGACGTCCATACATCGGTGATGGAGGACTCCATGAGCTCGGCCACCACCCTGACCACGCCCGCAGGAGCAGGTG  
GACAGCCTCATCATGCAGATCGCCGAGGAGAATGGCCTGGAGGTGCTGGACCAGCTCAGCCAGCTGCCCGAGGGC  
GCCTCTGCCGTGGGCGAGAGCTCTGTGCGCAGCCAGGAGGACCAGCTGTACGGAGGTTGGCCGCCCTTGAGGAAC  
TAGCCGTGCCCCGCCGGTGTGCACCGCCTCTGCCCCGTGATGTGCTGGAAGGCTCCTGTCTCTCCCCACCGCGT  
CTTGCCITTTGTGCTGACCCCGCGGGGTGCGGCCGCGCAGCCACTCTGCGTCTCTCACCTGCCAGGCCTGCGTGGC  
CTTAGGGTTGTTTCTGTTCTTTTAGGTTGGGCGGTGGGTCTGTGTCCTGGTGTGAGTTTCTGCAAATTTCTGGG  
GGTGATTTCTGTGACTCTGGGCCCACAGCGGGGAGGCCAAGAGGGGCCCTGTGGACTTTCACCCAGCACTGTGGG  
GGCCTTCAGACTCTGGGGCAGCAGACATGCTGCTTCCCATCAGCCAGAGGGGGTCAGGGCTGCCCTGTTGCCAAA  
CAACTCCCTGAGGCCTCTCCGCACCACCTCAGCGGGCAGGAGTCCCACCATGTGGACAGACATAGCCCAAGGAG  
GCACCACAGGTCTATGTGTGCTGGGGGATGTGAGGTGCCACCCAACGCTGTCTGGTGGTATTTACAATGACATC  
CTCCTCCTCCATCACTCCAGGGGTGGTGTCTCGGCCGCCCTACCAGCTGGCTGAGCCCCCTGGCCTCCTGCGCT  
CCCTCACTTCCCTCAGTTCCCAAAGCTGCCCAGTCCATGGGGACAGAACCGTCACTCAGATCCACATTCAAGTGT  
GCCCACCCTGCAGTCTTCATCCTCACTCAGCTGCTGCCTCTGGAGGTGCCTTTGGCCACATGTGCTGTGCTGTTT  
GTCTCCTCGACAGGGAGCCTGTCCACCAGCAGGCTGCGGTCCCAGCGGGTGCCTCTGCAGCTCCTCCCCTTGGGC  
AGCCTGGTTCTCCCGGAGGACCTTTCTTGGGGCCCTGCTTCATGACGATGCTGCCTGTGTACCCCTTACCATC  
TGTAACAACCTGGGTGCCTTCCCCGACCACACCCCAATGCCTTCCCAGCTTGGAAGCCAAGGCAGCTGATGAAGG  
GAGCTCAGGAGAGCCGTCTTCAGCTGGGCTGGGGTTGGGGCTGCTGTGAGGAAAACCTGCCATTGTGGCCCTGGA  
GAGTCACCAGCAGCTCTTGGAAGGACTTGTGAGGAGCTGAGAGAGGCTTTGGGCACAGCCTGCTGTCTTTTCC  
ATTTCTAAAGTTTACTTCATTGTCTTGAGGCTTCCAGGTTTTGTTTTTGTGTTTTGCCAAAGTAGAAAAGGCAGG  
TGGTGGGCGGCTGGCAGGGAGTGCGGGTCCCCGCCCTCTTCAGTCTGCCCTCCCCTCCTCAGTCTGCCCACC  
CCGTGCAGCCCATGCTGAGGCTGCAGTGGTGTGCTGGGTGTTACGTGCAGGAACGTGGAGACCCTGACGTGGGCT  
CACTGCGTTTGGTTTTCTTTTCAGAACTTGGGAGCCCCAGGGAGGGGCTAGTGTGTTGGTAGGTCCTAGACGTGGA  
TCCCTCCAGCCTCCCCAAAATCAACCCTGGTGTGAGAGAACGTCCTTCTGTCCATCGTGGGTAAACAGCCTTGGG  
GAGGCTGCAGAGCTCTGCAGAGCCATGGGCCAGGTGGGGCTGCCTCAGTCTGTCCCCTTGGGCACTGAGGAGAG  
GGGCCCATTCACCTTCTCCTAGAAATGCTGTTGTAAATAACAAATGGATCCCTGG

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**FIGURE 4633**

CTTTCGCTCGGCTGTTTTCTGCGCAGGAGCCGCAGGGCCGTAGGCAGCCATCGCGCCCCAGCCGGAATGGCATG  
GTCTTGAAGCCCCACTTCCACAAGGACTGGCAGCGGCGCGTGGCCACGTGGTTCAACCAGCCGGCCCCGTAAGATC  
CGCAGACGTAAGGCCCGGCAAGCCAAGGCGCGCCGCATCGCCCCGCGCCCCGCGTCCGGTCCCATCCGGCCCCATC  
GTGCGCTGCCCCACGGTTCGGTACCACACGAAGGTGCGCGCCGGCCGCGGCTTCAGCCTGGAGGAGCTCAGGGTG  
GCCGGCATTACACAAGAAGGTGGCCCGGACCATCGGCATTTCTGTGGATCCGAGGAGGCGGAACAAGTCCACGGAG  
TCCCTGCAGGCCAACGTGCAGCGGCTGAAGGAGTACCGCTCCAACTCATCCTCTTCCCCAGGAAGCCCTCGGCC  
CCCAAGAAGGGAGACAGTTCTGCTGAAGAACTGAAACTGGCCACCCAGCTGACCGGACCGGTCATGCCCGTCCGG  
AACGTCTATAAGAAGGAGAAAAGCTCGAGTCATCACTGAGGAAGAGAAGAATTTCAAAGCCTTCGCTAGTCTCCGT  
ATGGCCCGTGCCAACGCCCCGGCTCTTCGGCATAACGGGCAAAAAGAGCCAAGGAAGCCGCAGAACAGGATGTTGAA  
AAGAAAAAATTAAAGCCCTCCTGGGGACTTGGAATCAGTCGGCAGTCATGCTGGGTCTCCACGTGGTGTGTTTCGT  
GGGAACAACCTGGGCCTGGGATGGGGCTTCACTGCTGTGACTTCCTCCTGCCAGGGGATTTGGGGCTTCTTGAAA  
GACAGTCCAAGCCCTGGATAATGCTTTACTTTCTGTGTTGAAGCACTGTTGGTTGTTTGGTTAGTGAAGTATGTA  
AAACGGTTTTTCTTGTTGGGGAGGTTACAGAGGCTGACTTCAGAGTGGACTTGTGTTTTTTCTTTTTAAAGAGGCAA  
GGTTGGGCTGGTGCTCACAGCTGTAATCCCAGCACTTTGAGGTTGGCTGGGAGTTCAAGACCAGCCTGGCCAACA  
TGTCAGAACTACTAAAAATAAAGAAATCAGCCATGAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4634**

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKARQAKARRIAPRPASGPPIRPIVRCPTVRYHTKVRAGRG  
FSLEELRVAGIHHKVARTIGISVDPRRRNKSTESLQANVQRLKEYRSKLILFPRKPSAPKKGDSSAEELKLATQL  
TGPVMPVRNVYKKEKARVITEEEKNFKAFASLRMARANARLFGIRAKRAKEAAEQDVEKKK

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**FIGURE 4635**

CTGGGTCCTGGCCTTTGGGCATCATCCAGCGCCATCGGCCTGGCGCTTCAGCCAACGCGGGAGTGGATGGGCCCC  
TTCTTCTTCGCAGACAGCGTTTCGGCCGCTGCCCGGGCTCTAGGCGCGGCCGGACGGCCCCAGTCTGGAGGGTTTCGG  
GGCGGAGGCCCCGGGGGGGTGCGCGCGCCCGGGGTCCGGCCTCTCACTCGCTCCCCCTCTCGTCCGCAGCCGCAGGG  
CCGTAGGCAGCCATGGCGGCCAGCCGGAATGGCATGGTCTTGAAGCCCCACTTCCACAAGGACTGGCAGCGGGCGC  
GTGGCCACGTGGTTCAACCAGCCGGCCCGTAAGATCCGCAGACGTAAGGCCCGGCAAGCCAAGGCGCGCCGCATC  
GCCCCGCGCCCCGCGTCCGGTCCCATCCGGCCCATCGTGCGCTGCCCCACGGTTCGGTACCACACGAAGGTGCGC  
GCCGCGCGGGCTTCAGCCTGGAGGAGCTCAGGGTGGCCGGCATTACACAAGAAGGTGGCCCCGACCATCGGCATT  
TCTGTGGATCCGAGGAGGCGGAACAAGTCCACGGAGTCCCTGCAGGCCAACGTGCAGCGGCTGAAGGAGTACCGC  
TCCAAACTCATCTCTTCCCCAGGAAGCCCTCGGCCCCCAAGAAGGGAGACAGTTCTGCTGAAGAACTGAAACTG  
GCCACCCAGCTGACCGGACCGGTTCATGCCCGTCCGGAACGTCTATAAGAAGGAGAAAGCTCGAGTCATCACTGAG  
GAAGAGAAGAATTTCAAAGCCTTCGCTAGTCTCCGTATGGCCCGTGCCAACGCCCGGCTCTTCGGCATAACGGGCA  
AAAAGAGCCAAGGAAGCCGCGAGAACAGGATGTTGAAAAGAAAAATAAAGCCCTCCTGGGGACTTGGAATCAGTC  
GGCAGTCATGCTGGGTCTCCACGTGGTGTGTTTCGTGGGAACAACCTGGGCCTGGGATGGGGCTTCACTGCTGTGA  
CTTCCTCCTGCCAGGGGATTTGGGGCTTTCTTGAAAGACAGTCCAAGCCCTGGATAATGCTTTACTTTCTGTGTT  
GAAGCACTGTTGGTTGTTTGGTTAGTGACTGATGTAAAACGGTTTTCTTGTTGGGGAGGTTACAGAGGCTGACTTC  
AGAGTGGACTTGTGTTTTTTCTTTTTAAAGAGGCAAGGTTGGGCTGGTGCTCACAGCTGTAATCCCAGCACTTTG  
AGGTTGGCTGGGAGTTCAAGACCAGCCTGGCCAACATGTGAGAACTACTAAAAATAAAGAAATCAGCCATGAAAA  
AAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4636**

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKARQAKARRIAPRPASGPIRPIVRCPTVRYHTKVRAGRG  
FSLEELRVAGIHKKVARTIGISVDPRRRNKSTESLQANVQRLKEYRSKLILFPRKPSAPKKGDSSAEELKLATQL  
TGPVMPVRNVYKKEKARVITEEEKNFKAFASLRMARANARLFGIRAKRAKEAAEQDVEKKK

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**FIGURE 4637**

TAGTTTTATCTCTATACCCAAAATGGAGGTTAAAAGTTACACTAAAAATAACACGATTGCACCAAAGAAAGCGTC  
CCATCGTATCCTGTCTAGACACGTCGGACGAGGAGGACGCGAGTGTACCGTGGGGACAGGAGAGAAGCTGAGACT  
CTCGGCACATACGATATTGCCTGGTAGTAAGACACGAGAGCCTTCTAATGCCAAGCAGCAGAAGGAAAAAATAA  
AGTGAAAAAGAAGCGAAAGAAAGAAACAAAAGGCAGAGAGGTTTCGCTTCGGAAAAGCGGAGCGACAAGTTCTGCTC  
CTCGGAGTCGGAGAGCGAGTCCTCAGAGAGTGGGGAGGATGACAGGGACTCTCTGCGCTCCTCCACCTCGTCTCACGGGAG  
GGGTCCCCGCTGGTGCTGAAGGACCCCTCCCTGTTCAGCTCCCTCTCTGCTCCTCCACCTCGTCTCACGGGAG  
CTCTGCCGCCCAGAAGCAGAACCCACAGCCACACAGACCAGCACACCAAGCACTGGCGGACAGACAATTGGAAAAC  
CATTCTTCCCCGCTTGGTCAGAGGTCAGTTCTTTATCAGACTCCACAAGGACGAGACTGACAAGCGAGTCTGA  
CTACTCCTCTGAGGGCTCCAGTGTGGAATCGCTGAAGCCAGTGAGGAAGAGGCAGGAGCACAGGAAGCGAGCCTC  
CCTGTCTGGAGAAGAAGAGCCCCCTTCTGTCCAGCGCGGAGGGCGCTGTCCCCAACTGGACAAGGAGGGGAAAGT  
TGTCAAAAAACATAAAAAACAAACACAAAAACAAGGAGAAGGGACAGTGTTCATCAGCCAAGAGCTGAA  
GTTGAAAAGTTTTACTTACGAATATGAGGACTCCAAGCAGAAGTCAGATAAGGCTATACTGTTAGAGAATGATCT  
TTCCACTGAAAAACAAGCTAAAAAGTGTTAAAGCACGATCGCGACCCTTTAAAAAGAAGAGAACTTAGCAAAAT  
GAAATTAGAAGAAAAAGAAATGGCTCTTTAAAGATGAAAAATCACTGAAGAGAATCAAAGACACAAACAAAGACAT  
CAGCAGGTCTTTCCGAGAAGAGAAAAGACCGTTTCAATAAAGCAGAAAAGGAGAGATCGCTGAAGGAAAAGTCTCC  
GAAAGAAGAAAAACTGAGACTGTACAAAGAGGAGAGAAAGAAGAAATCAAAGACCGGCCCTCAAATTAGAGAA  
GAAGAATGATTTAAAAGAGGACAAAATTTCAAAGAGAAGGAGAAGATTTTTAAAGAAGATAAAGAAAAACTCAA  
AAAAGAAAAGGTTTATAGGGAAGATTCTGCTTTTGACGAATATTGTAACAAAAATCAGTTTCTGGAGAATGAAGA  
CACCAAAATTTAGCCTTTCTGACGATCAGCGAGATCGGTGGTTTTCTGACTTGTCCGATTATCCTTTGATTTCAA  
AGGGGAGGACAGCTGGGACTCGCCAGTGACAGACTACAGGGACATGAAGAGCGACTCTGTGGCCAAGCTCATCTT  
GGAGACGGTGAAGGAGGACAGCAAGGAGAGGAGGCGGGACAGCCGGGCCCGGAGAAAGCGAGACTACAGAGAGCC  
CTTCTTCCGAAAGAAGGACAGGGACTATTTGGATAAAAACTCTGAGAAGAGGAAAGAGCAGACTGAAAAGCATAA  
AAGTGTCCCTGGCTACCTTTTCGAAAAGGACAAGAAGAGGAGAGAGTCCGAGAGGCCGGGCGGGACAGAAAGGA  
CGCCCTGGAGAGCTGCAAGGAGCGCAGGGACGGCAGGGCCAAGCCCGAGGAGGCGCACCAGGAGGAGCTGAAGGA  
GTGTGGCTGCGAGAGTGGCTTCAAGGACAAGTCCGACGGCGACTTTGGGAAGGGCCTGGAGCCGTGGGAACGGCA  
CCACCCAGCACGAGAGAAGGAGAAGAAGGATGGCCCCGATAAGGAAAGGAAGGAGAAGACAAAACCAGAAAGATA  
CAAAGAGAAATCCAGTGACAAGGACAAAAGTGAGAAATCAATCCTGGAAAAATGTCAGAAGGACAAAAGATTGA  
TAAATGTTTTAAAGAGAAAAAAGATACCAAGGAAAAACATAAAGACACACATGGCAAAGACAAAGAAAGGAAAGC  
GTCTCTCGACCAAGGGAAAGAGAAGAAGGAGAAGGCTTTCCCTGGGATCATCTCAGAAGACTTCTCTGAAAAAAA  
AGATGACAAGAAAGGCAAAGAGAAAAAGCTGGTACATCGCAGACATCTTCACAGATGAGAGTGAGGACGACAGAGA  
CAGCTGCATGGGGAGCGGTTCAAGATGGGAGAGGCCAGCGACTTGCCGAGGACGGACGGCCTCCAGGAGAAGGA  
GGAAGGACGGGAGGCCTATGCCTCCGACAGACACAGGAAGTCTTCTGACAAGCAGCACCTTGAGAGGCAGAAGGA  
CAAGGAGCCCAGAGACAGGAGAAAGGACCGAGGGGCTGCCGACGCGGGGAGAGACAAAAAAGAGAAAGTCTTTGA  
AAAGCACAAAGGAGAAGAAGGATAAAGAGTCCACAGAAAAAGTACAAGGACAGGAAGGACAGAGCCTCAGTGGACTC  
CACGCAAGATAAGAAAAATAAACAGAAGCTCCCCGAGAAGGCTGAAAAGAAGCACGCTGCCGAAGACAAGGCTAA  
AAGCAAACACAAAGAGAAGTCCGACAAAGAACATTCCAAGGAGAGGAAGTCTCGAGAAGTGCCGACGCGGAAAA  
AAGCCTGCTTGAAGGTTGGAAGAAGAGGCTCTCCATGAGTACAGAGAAGACTCCAACGATAAAATCAGCGAGGT  
CTCCTCTGACAGCTTCACGGACCGAGGGCAGGAGCCGGGGCTGACTGCCTTCTGGAGGTCTCTTTCACGGAGCC  
ACCTGGAGACGACAAGCCGAGGGAGAGCGCCTGCCTCCCTGAGAAGCTGAAAGAGAAGGAGAGGCACAGACACTC  
CTCATCTTCATCCAAGAAGAGCCACGACCGAGAGCGCAAGAAAGAGAAGGCCGAGAAGAAAGAGAAGGGCGA  
AGATTACAAGGAGGGCGGTAGCAGGAAGGACTCCGGCCAGTACGAAAAGGACTTCTGGAGGCGGATGCTTACGG  
AGTTTCTTACAACATGAAAGCTGACATAGAAGATGAGCTAGATAAAACCATGAATTGTTTTCTACCGAAAAGAA  
AGATAAAAAATGATTCCGAGAGAGAACCTTCCAAG

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**FIGURE 4638**

ACTTGCCTGTCACTCAGCCTGGACGCGCTTCTTCGGGTGCGGGGTGCACTCCGGCCCCGGCTCCCGCCTCGGCC  
CGATGGACGCGCGCTTCCTCCTCGTCCTCGGGCTGTTGGCCAGAGCCTCTGCCTGTCTTTGGGGTTCCTGGAT  
GGAGGAGGCCACACCTGTACCCCTGGCGCCGGGCGCCTGCCCTGAGCCGCTGCGGAGGGCCTGGGTCATCC  
CCCCGATCAGCGTATCCGAGAACCACAAGCGTCTCCCTACCCCTGGTTTCAGATCAAGTCGGACAAGCAGCAGC  
TGGGCAGCGTCATCTACAGCATCCAGGGACCCGGCGTGGATGAGGAGCCCCGGGGCGTCTTCTCTATCGACAAGT  
TCACAGGGAAGGTCTTCCTCAATGCCATGCTGGACCGCGAGAAGACTGATCGCTTCAGGCTAAGAGCGTTTGCCC  
TGGACCTGGGAGGATCCACCCTGGAGGACCCACGGACCTGGAGATTGTAGTTGTGGATCAGAATGACAACCGGC  
CAGCCTTCCTGCAGGAGGCGTTCACTGGCCGCGTGTGGAGGGTGCAGTCCCAGGCACCTATGTGACCAGGGCAG  
AGGCCACAGATGCCGACGACCCCGAGACGGACAACGCAGCGCTGCGGTTCTCCATCCTGCAGCAGGGCAGCCCCG  
AGCTCTTCAGCATCGACGAGCTCACAGGAGAGATCCGCACAGTGAAGTGGGGCTGGACCGCGAGGTGGTCGCGG  
TGTACAATCTGACCCTGCAGGTGGCGGACATGTCTGGAGACGGCCTCACAGCCACTGCCTCAGCCATCATCACC  
TTGATGACATCAATGACAATGCCCCGAGTTCACCAGGGATGAGTTCTTCATGGAGGCCATAGAGGCCGTCAGCG  
GAGTGGATGTGGGACGCTGGAAGTGGAGGACAGGGACCTGCCAGGCTCCCCAACTGGGTGGCCAGGTTACCA  
TCCTGGAAGGCGACCCCGATGGGCAGTTCACCATCCGCACGGACCCCAAGACCAACGAGGGTGTCTGTCCATTG  
TGAAGGCCCTGGACTATGAGAGCTGTGAACACTACGAACCTAAAGTGTGCGTGCAGAATGAGGCCCCGCTGCAGG  
CGGCTGCCCTTAGGGCTGAGCGGGGCCAGGCCAAGGTCCGCGTGCATGTGCAGGACACCAACGAGCCCCCGTGT  
TCCAGGAGAACCCACTTCGGACACGCTAGCAGAGGGGGCACCCCAAGCACTCTGGTGGCCACCTTCTCTGCC  
GGGACCTGACACAGAGCAGCTGCAGAGGCTCAGCTACTCCAAGGACTACGACCCGGAAGACTGGCTGCAAGTGG  
ACGCAGCCACTGGCCGGATCCAGACCCAGCACGTGCTCAGCCCGGCGTCCCCCTTCCTCAAGGGCGGCTGGTACA  
GAGCCATCGTCCTGGCCAGGATGACGCTCCAGCCCCGACCGCCACCGGCACCCTGTCCATCGAGATCCTGG  
AGGTGAACGACCATGCACCTGTGCTGGCCCCGCCGCCCGGGCAGCCTGTGCAGCGAGCCACCAAGGCCCCAG  
GCCTCCTCCTGGGCGCCACGGATGAGGACCTGCCCCCCCCACGGGGCCCCCTTCCACTTCCAGCTGAGCCCCAGGC  
TCCCAGAGCTCGGCCGGAAGTGGAGCCTCAGCCAGGTCAACGTGAGCCACGCGCGCCTGCGGCCGCGACACCAGG  
TCCCCGAAGGCTGCACCGCTCAGCCTGCTGCTCCGGGACTCGGGGCAGCCGCCCCAGCAGCGCGAGCAGCCTC  
TGAACGTGACCGTGTGCCGCTGCGGCAAGGACGGCGTCTGCCTGCCGGGGGCCGAGCGCTGCTGGCGGGGGCA  
CAGGCCTCAGCCTGGGCGCACTGGTCATCGTGTGGCCAGCGCCCTCCTGCTGCTGGTGTGGTCTGCTCGTGG  
CACTCCGGGCGCGGTTCTGGAAGCAGTCTCGGGGCAAGGGGCTGCTGCACGGCCCCAGGACGACCTTCGAGACA  
ATGTCTCAACTACGATGAGCAAGGAGGCGGGGAGGAGGACCAGGACGCCTACGACATCAGCCAGCTGCGTCACC  
CGACAGCGCTGAGCCTGCCTCTGGGACCGCGCCACTTCGCAGAGATGCCCCGAGGGCCGCTGCACCCCAAGC  
CACCCGAGTGCTGCCACCAAGCCCCCTGGACATCGCCGACTTCATCAATGATGGCTTGGAGGCTGCAGATAGTG  
ACCCAGTGTGCCGCTTACGACACAGCCCTCATCTATGACTACGAGGGTGACGGCTCGGTGGCGGGGACGCTGA  
GCTCCATCCTGTCCAGCCAGGGCGATGAGGACCAGGACTACGACTACCTCAGAGACTGGGGGCCCCGCTTCGCCC  
GGCTGGCAGACATGTATGGGACCCGTCGCGGTTGGAGTACGGGGCCAGATGGGACCACCAGGCCAGGGAGGGTC  
TTTCTCCTGGGGCACTGCTACCCAGACACAGAGGCCGGACAGCCTGACCCCTGGGGCGCAACTGGACATGCCACTC  
CCCGCCTCGTGGCAGTGATGGCCCCCTGCAGAGGCAGCCTGAGGTACCGGGCCCCGACCCCTGGGCCTGGGGC  
AGCCTCCTTCCTGTAGGCGAGGGCCCAAGTCTGGGGGCGAAGCTGAGTGTGGATGGGGCGGCCAGGAAGAGGCC  
CCTTCCTGCCGGGGTGGGAAGAGTTTCTCTCCATCGGCCCCATGCGGGTCACCTCCCTAGTCCCACCTTTGCCTC  
CTACCAGTGAACCTCATCTTGTATGAAAGACAGCAACCTCCTGGGTAAATCTGAATGAAAAACGTGCTAGTCTC  
TTTCATGCAAAAAAAAAAAAAAAAAA



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**FIGURE 4639**

MDAAFLVLGLLAQSLCLSLGVPGWRRPTTLYPWRRAPALSRVRRRAWVIPPISVSENHKRLPYPLVQIKSDKQQL  
GSIYISIQGPVDEEPRGVFSIDKFTGKVFLNAMLDREKTDRELRALFALDLGGSTLEDPTDLEIVVVDQNDNRP  
AFLQEAFTGRVLEGAVPGTYVTRAEATDADDPETDNAALRFSILQOGSPELFSIDELTGEIRTVQVGLDREVVAV  
YNLTLQVADMSGDGLTATASAIITLDDINDNAPEFTRDEFFMEAEAVSGVDVGRLEVEDRDLPGSPNWWARFTI  
LEGDPDGQFTTIRTDPKTNEGVLISIVKALDYESCEHYELKVSQNEAPLQAAALRAERGQAKVRVHVQDTNEPPVF  
QENPLRTSLAEGAPPGLVATFSARDPDTEQLQRLSYSKDYDPEDWLQVDAATGRIQTQHVLSPASPFLLKGGWYR  
AIVLAQDDASQPRATATGTLSEILEVNDHAPVLAPPPPGSLCSEPHQGPGLLLGATDEDLPPHGAPFHFQLSPRL  
PELGRNWSLSQVNVSHARLRPRHQVPEGLHRLSLLLRDSGQPPQOREQPLNVTVCRCGKDGVCPLPGAAALLAGGT  
GLSLGALVIVLASALLLVLLVLLVALRARFWKQSRGKGLLHGPQDDLRDNVNLNYDEQGGGEEDQDAYDISQLRHP  
TALSLPLGPPPLRRDAPQGRLLHPQPPRVLPTSPLDIADFINDGLEAADS DPSVPPYDTALIYDYEGDGSVAGTLS  
SILSSQGDDEDQDYDLRDWGPFRFARLADMYGHPCGLEYGARWDHQAREGLSPGALLPRHRGRTA

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**FIGURE 4640**

AGTTCTGTGGAGCAGCGGTGGCCGGCTAGGATGGGCTGTCTCTGGGGTCTGGCTCTGCCCCCTTTCTTCTTCTGC  
TGGGAGGTTGGGGTCTCTGGGAGCTCTGCAGGCCCCAGCACCCGCAGAGCAGACACTGCGATGACAACGGACGAC  
ACAGAAGTGCCCGCTATGACTCTAGCACCCGGGCCACGCCGCTCTGGAAACTCAAACGCTGAGCGCTGAGACCTCT  
TCTAGGGCCTCAACCCAGCCGGCCCCATTCCAGAAGCAGAGACCAGGGGAGCCAAGAGAATTTCCCTGCAAGA  
GAGACCAGGAGTTTCAAAAAACATCTCCCAACTTCATGGTGCTGATCGCCACCTCCGTGGAGACATCAGCCGCC  
AGTGGCAGCCCCGAGGGAGCTGGAATGACCACAGTTCAGACCATCACAGGCAGTGATCCCGAGGAAGCCATCTTT  
GACACCTTTGCACCGATGACAGCTCTGAAGAGGCAAAGACACTCACAATGGACATATTGACATTGGCTCACACC  
TCCACAGAAGCTAAGGGCCTGTCTCAGAGAGCAGTGCCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCA  
CGGGCCTCAGAGAGCAGCGCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCACGGGCCTCAGAGAGCAGC  
GCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCATGGTCCCCGGGATCTGATGTCACTCTCCTCGCTGAA  
GCCCTGGTGACTGTCAAAACATCGAGGTTATTAATTGCAGCATCACAGAAATAGAAACAACAACCTTCCAGCATC  
CCTGGGGCCTCAGACATAGATCTCATCCCCACGGAAGGGGTGAAGGCCTCGTCCACCTCCGATCCACCAGCTCTG  
CCTGACTCCACTGAAGCAAAACCACACATCACTGAGGTACAGCCTCTGCCGAGACCCTGTCTCAGCCCTCTCT  
GTTGAGACACCAAGTTACGTCAAAGTCTCAGGAGCAGCTCCGGTCTCCATAGAGGCTGGGTGAGCAGTGGGCAAA  
ACAACCTCCTTTGCTGGGAGCTCTGCTTCTCTACAGCCCCCTCGGAAGCCGCCCTCAAGAACTTACCCCTTCA  
GAGACACCGACCATGGACATCGCAACCAAGGGGCCCTTCCCCACCAGCAGGGACCCTCTTCTTCTGTCCCTCCG  
ACTACAACCAACAGCAGCCGAGGGACGAACAGCACCTTAGCCAAGATCACAACCTCAGCGAAGACCACGATGAAG  
CCCCAACAGCCACGCCCACGACTGCCCGGATCGAGGCCGACCACAGACGTGAGTGCAGGTGAAAATGGAGGTTT  
CCTCCTCCTGCGGCTGAGTGTGGCTTCCCCGGAAGACCTCACTGACCCAGAGTGGCAGAAAGGCTGATGCAGCA  
GCTCCACCGGGAACCTCCACGCCCACGCGCCTCACTTCCAGGTCTCCTTACTGCGTGTGAGGAGAGGCTAACGGAC  
ATCAGCTGCAGCCAGGCATGTCCCGTATGCCAAAAGAGGGTGCTGCCCTAGCCTGGGCCCCCACCAGACAGACTG  
CAGCTGCGTTACTGTGCTGAGAGGTACCCAGAAGGTTCCCATGAAGGGCAGCATGTCCAAGCCCCTAACCCAGA  
TGTGGCAACAGGACCCTCGCTCACATCCACGGAGTGTATGTATGGGGAGGGGCTTCACCTGTTCCAGAGGTGT  
CCTTGGACTCACCTTGGCACATGTTCTGTGTTTTAGTAAAGAGAGACCTGATCACCCATCTGTGTGCTTCCATCC  
TGCATTAAAATTCACCTCAGTGTGGCCCAG

[illegible]

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**FIGURE 4642**

GCGGAGCGAGAGGCTGAGAGAGTCGGAGACACTATCCGCTTCCATCCGTCGCGCAGACCCCTGCCGGAGCCGCTGC  
CGCTATGGATGATCGAGAGGATCTGGTGTACCAGGCCAAGCTGGCCGAGCAGGCTGAGCGATACGACGAAATGGT  
GGAGTCAATGAAGAAAGTAGCAGGGATGGATGTGGAGCTGACAGTTGAAGAAAGAAACCTCCTATCTGTTGCATA  
TAAGAATGTGATTGGAGCTAGAAGAGCCTCCTGGAGAATAATCAGCAGCATTGAACAGAAAGAAACAAGGG  
AGGAGAAGACAAGCTAAAAATGATTCGGGAATATCGGCAAATGGTTGAGACTGAGCTAAAGTTAATCTGTTGTGA  
CATTCTGGATGTACTGGACAAACACCTCATTCCAGCAGCTAACACTGGCGAGTCCAAGGTTTTCTATTATAAAAT  
GAAAGGGGACTACACAGGTATCTGGCAGAAATTTGCCACAGGAAACGACAGGAAGGAGGCTGCGGAGAACAGCCT  
AGTGGCTTATAAAGCTGCTAGTGATATTGCAATGACAGAACTTCCACCAACGCATCCTATTTCGCTTAGGTCTTGC  
TCTCAATTTTTCCGTATTCTACTACGAAATTCCTAATTCCTCCCTGACCGTGCCTGCAGGTTGGCAAAAGCAGCTTT  
TGATGATGCAATTGCAGAACTGGATACGCTGAGTGAAGAAAGCTATAAGGACTCTACACTTATCATGCAGTTGTT  
ACGTGATAATCTGACACTATGGACTTCAGACATGCAGGGTGACGGTGAAGAGCAGAATAAAGAAGCGCTGCAGGA  
CGTGGAAGACGAAAATCAGTGAGACATAAGCCAACAAGAGAAACCATCTCTGACCACCCCTCCTCCCCATCCCA  
CCCTTTGGAAACTCCCCATTGTCACTGAGAACCACCAAATCTGACTTTTACATTTGGTCTCAGAATTTAGGTTCC  
TGCCCTGTTGGTTTTTTTTTTTTTTTTTTTTTAAACAGTTTTCAAAGTTCTTAAAGGCAAGAGTGAATTTCTGTG  
GATTTTACTGGTCCCAGCTTTTAGGTTCTTTAAGACACTAACAGGACTACATAGAGGCTTTTTCAGCATTACTGT  
GTCGTCTCCGTGCCAGATGTGGCAAGATCACCATTAGCAAATGGAAATTACATTTGAAAGCCATTAGACTTATAG  
GTGATGCAAGCATCTAAGAGAGAGGTTAATCACACTATAGAGGCATAAGTGGTATCAGTTTTCATTTTTCTAATT  
GTTTAAACTGTGTTTTATACCAGTGTTTGCAAGTAATTGGGTGTTAGCTTGAGATGGTTAAAGGTGGTTTGGGGA  
GGGACTTCGTTGTAATGGTTTTGCTGTAAAAAATGTTTCCAACCTCCGCTGAAATGTTGCTGAAAAGCATGGTGCT  
GGTAACAGTTCAACAATCCGTGGCTGCTCATTCTTGCCTACTTTACTCTCCCACTGAAGCAGGTTAGCGTTGAAG  
GTGGTATGGAAGCCTGCATGCCTGTTCAATTCTTTTGTTCCTTCTCCTTCCCCCTCCCCCTACCTCCTTCCCC  
TCACTCCTCCCCTCCTTCGCTCGCTCAACCTCTTTTGTTCAGTATGTGTAACCTGAAGCTAATTTGTACTACTGG  
ATATCTGACTGGAGCCACAGATACAGAATCTGTATTGTTCTTACTGAAACACAGCATGGAATTAACATTAAACTT  
AAATAAAACAAACCTAAATTAAAAA

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**FIGURE 4643**

MDDREDLVYQAKLAEQAERYDEMVESMKKVAGMDVELTVEERNLLSVAYKNVIGARRASWRIISSIEQKEENKGG  
EDKLMIREYRQMVETELKLICCDILDVLDKHLIPAANTGESKVFYYKMGDYHRYLAEFATGNDRKEAAENSLV  
AYKAASDIAMTELPPTHPIRLGLALNFSVFYYEILNSPDRACRLAKAAFDDAIAELDTLSEESYKDSTLIMQLLR  
DNLTLTWTSMDMQDGEEQNKEALQDVEDENQ

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**FIGURE 4644A**

CTCGCCCCCTCCGCGCTCGCAACTTCGGCCTCCCCCGGCTCCCGCCCGCTCTCCCTCCTTTGTTGCGCGATGAGGG  
TCGGGTTTCGGATCTGACCGAGCCGCCGCCGGGATGGAGCCGCTCAGCCACCGGGGCTGCCGCGCCTGTCTT  
GGATCGACACCCTCTACAGCAACTTCAGCTACGGGACGGACGAGTACGACGGAGAGGGGAATGAGGAGCAGAAGG  
GGCCCCCGGAGGGCTCAGAGACCATGCCGTACATCGATGAGTCGCCCACCATGTCCCCGCAGCTCAGCGCCCGCA  
GCCAGGGCGGGGGGATGGCGTCTCCCCGACTCCACCTGAGGGACTGGCTCCTGGGGTGGAAAGCAGGGAAGGCC  
TGGAGATGAGGAAGCTGGTTCTCTCGGGGTTCTTGGCCAGCGAAGAGATCTACATTAACCAGCTGGAAGCCCTGT  
TGCTGCCCATGAAACCCCTGAAGGCCACCGCCACCACCTCCCAGCCCGTGCTCACCATCCAGCAGATCGAGACCA  
TCTTCTACAAGATCCAGGACATCTATGAGATCCACAAGGAGTTCTATGACAACCTGTGCCCCAAGGTGCAACAGT  
GGGACAGCCAGGTCACCATGGGCCACCTCTTCCAGAAGCTGGCCAGCCAGCTCGGTGTGTACAAAGCGTTTGTCTG  
ATAACTATAAAGTCGCTCTGGAGACAGCTGAGAAGTGCAGCCAGTCCAACAACCAGTTCCAGAAGATCTCAGAGG  
AACTCAAAGTGAAAGGTCCCAAGGACTCCAAGGACAGCCACACGTCTGTACCATGGAAGCTCTGCTCTACAAGC  
CCATTGACCGGGTCACTCGGAGCACCCCTAGTCTTACACGACCTGTGAAGCACACACCTGTGGACCACCCCGACT  
ACCCGCTGCTGCAGGATGCCCTCCGCATCTCCCAGAACTTCTGTCCAGCATCAACGAGGACATCGACCCCGCC  
GGACTGCAGTGACAACGCCCAAGGGGGAGACGCGACAGCTGGTGAAGGACGGCTTCTGGTGGAAAGTGTGAGAGG  
CTCCCCGGAAGCTGCGGCACGTCTTCTCTTTACAGATGTCTACTGTGTGCCAAGCTGAAGAAGACCTCTGCAG  
GGAAGCACCAGCAGTATGACTGTAAGTGGTACATCCCCCTGGCCGACCTGGTGTTCATCCCCGAGGAATCTG  
AGGCCAGCCCCCAGGTGCACCCCTTCCCAGACCATGAGCTGGAGGACATGAAGATGAAGATCTCTGCCCTCAAGA  
GTGAAATCCAGAAGGAGAAAGCCAACAAGGCCAGAGCCGGGCCATCGAGCGCTGAAGAAGAAGATGTTTGAGA  
ATGAGTTCTGTGCTGCTCAACTCCCCACAATCCCGTTCAGGATCCACAATCGGAATGGAAGAGTTACCTGT  
TCCTACTGTCTCGGACTACGAGAGGTCAGAGTGGAGAGAAGCAATTCAGAACTACAGAAGAAGGATCTCCAGG  
CCTTTGTCTGAGCTCAGTGGAGCTCCAGGTGCTCACAGGATCCTGTTTCAAGCTTAGGACTGTACACAACATTC  
CTGTCACCAGCAATAAAGACGACGATGAGTCTCCAGGACTCTATGGCTTCTTCATGTCTATCGTCCACTCTGCCA  
AGGGATTTAAGCAATCAGCCAACCTGTACTGTACCCCTGGAGGTGGATTCTTCGGCTATTTTGTGAGCAAAAGCCA  
AAACCAGGGTGTTCGGGGACACAGCGGAGCCCAAGTGGGATGAGGAGTTTGAGATCGAGCTGGAGGGCTCCCAGT  
CCCTGAGGATCCTGTGCTATGAGAAGTGTATGACAAGACCAAGGTCAACAAGGACAACAATGAGATCGTGGACA  
AGATCATGGGCAAAGGACAGATCCAGCTGGACCCACAAACCGTGGAGACCAAGAAGTGGCACACGGACGTGATTG  
AGATGAACGGGATCAAAGTGGAAATTTTCATGAAATTCACCAGCCGAGATATGAGCCTGAAGAGGACCCCGTCCA  
AAAAGCAGACCGGCGTCTTCGGTGTGAAGATCAGCGTGGTGACGAAGCGGGAGCGCTCCAAGGTGCCCTACATCG  
TCCGGCAGTGTGTGGAGGAGGTGGAGAAGAGGGGTATCGAGGAGGTTGGCATCTACAGGATATCGGGCGTGGCCA  
CGGACATCCAGGCGCTCAAGGCCGTCTTCGATGCCAATAACAAGGACATCCTGCTGATGCTGAGTGACATGGACA  
TCAACGCCATCGCCGGGACGCTCAAGCTGTACTTCCGGGAAGTGGCCGAGCCGCTCCTCACGGACCGACTCTACC  
CAGCCTTCATGGAGGGCATCGCCCTGTGAGACCCTGTGCCAAGGAAAAGTGCATGATGCACCTGCTCCGCTCCC  
TGCCCGACCCCAACCTCATCACCTTCTCTTCTGCTGGAACACTTGAAAAGGGTTGCCGAGAAGGAGCCCATCA  
ACAAAATGTCACTTCACAACCTGGCTACCGTGTGTTGGACCCACGTTACTGAGACCCTCAGAAGTGGAGAGCAAAG  
CACACCTCACCTCGGCTGCGGACATCTGGTCCCATGACGTCATGGCGCAGGTCCAGGTCCCTCTACTACCTGC  
AGCACCCCCCATTTCTCTCGCAGAAGTCAAGCGGAACACACTGTACTTCTCCACCGACGTGTAGCCCGAGGCAG  
GGTGGCTGCGGGCGGGTGGTGGAAACCAGCCCCTCCAGCCTGGGGTCCAAGTCAAGTGAAGACTGCAATAGAA  
AACTCCCAAACCCAGCACTCCAGACTCGAGGGAAGCCAGCTTCCAAGAACTGGAATGCGTACGTCTTTTGTGCCA  
CCTTGTAACAAAGCCGGCTGCCAGCCCCAGCCTCACCACCGCATCCCACCTCCTGCCCTCCATACCTCTAGTTGT  
GTCTGATGCTCCGTGCTGTTTCGGGAATTGTTTTATGTACTTGTGAGGAGAAAAGGTAGTGACCGGCCCGGCG  
TGGGCACACAGACAGCCCCGCTTTGTTCTTTTATTCTCCAGCACTTTCTTTCCGCTGAGTCCAGCCCAAGGCC  
TTTTATTTTTCGCTGTGTAAGTGTGCGAGCTTCTCTTGGCCCTGCTCCAGATGGCGGTCTCCTGGCAGCCTCC  
CCTCAGTCTTCTCCACCCGCTCTTCTTCCCAGCCTGCCTGCATGCATGTGCACCCCTTGGTCTTCGCTCCATCG  
CCTTGAAAGCTCTGAAGAGGCCCTGGGTTGCCGCGGCAGCAGTGGTCTGTTTGATGCTGCCGTTTGCCGCTGCCG  
GCCCCCTCTCAGACTCCGCTTTGGGAGCACACCTGCTTTGCCTTGCTGCCTGTGCAAATGTTGGACAAGCAGAC  
ACACTCACACTCGTCCCCAGCTTAGCACAGAGCTGGAGCGCCCATTTCTGGAATTTTCCGTTTGGGAATCTCCAC  
TTCGGGGTTTACCTGTTTCGGCCTCCTGCCTATCAGTGAGGCATCTCTGACTGTTTCTTCTACTGCTTTTCAGTT  
CCCTTCCCTGCTGTTCTATTTCTTTGAGTGTAAGACTCACAGGTGACCTGCTATCGAGATAGCCAGAGGGTCA

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**FIGURE 4644B**

GGAGAGAATGGGGGAGGAGGCGGTGCTGAGGAAACACCACAGGCTGAACGGGGGAGGAATGCACATGCC  
ACGCTGGGTGTCCCGGGTCGCGGGGAGGCAGCTCAGCTCTTAGGAGCAAGTTGTGGGGGCTTTTCAAGAGGGGCC  
AGGCTTCCTGGAGGGTGACTGATGTGGCCGAAGCAGGTGTCCAGGCAGGTAGGCTGCAGCCAGGAGCTCCCTGGC  
ACCGCAGGACCTCGTGGTACTCTTGCCTTAGATTTTACACACACTCCACAGCCAAGCACTGCCACGGTCCCTCCAG  
GACCTGGGAAGCAAAGGCACAGGCCACGGTGGCCAGCCATTGTGGTGCTGCCCCAGCTTCTGGATACAGCCTTT  
TGGGTAAACACTGGGAACTCCAGAAGTTGTGGGGAGAGTGGGGAATCAGACAGCCGCCTCTAGGGGCTGGGTTCT  
GCTGGGGCCTCCTTGTGTGGTGCTGTAGGCACCCGCCAGGGAGCAGGGACCCGACTTGACAGACGCATTGCCCGGTA  
CTAGGAAGGAGTGAGGTGTGTTCCACCGTACACTTCCACACGAGCTGCGGCTGCCAGCCTCGGGCCATCAGCC  
TAGGAGAGCAGATGCAGCTCCAGGGGCTCGACTTATAGCCAGTTACAGCTCCCCGGCTCTTCTGTGTGGCAGAGC  
GTCGTTTCCGGGCCCCCAGGGCTGGGGAGCTCAGTTCCCATTTGCTTGTGCTCAGGGCTGAGTCTTAAAGAAGGGT  
TTGCCGGCCCTAACGCTGCAGCGCGTGC GCGGAGAGAGGCCCTTTTTGAGCCTGTTTACTCCTGTGGCCTTGGGC  
AGAACAGTAAATACTCTGTGCACGGAGGAAAGACATGCCCAAGAGGAAGGAAGTACTGACCATCGGCTGCCTGTG  
AGCAGCTTAGCAAGGAGCCCTTGCTCCCTGGGAAAGGCGGTGAACTTGAGTCTAAAGATGCAGTGCCTGGCCCTT  
CCTAAGGTCCCTGCCCTGGCATCCGAGTGTGCGGTGTGTGGCACAGAAGGCTCCTGCTTGCTTCCAAAGTGATGGAC  
AGGAAGGGGCAGAGTGAGTCACGGCCAGACTGGGCACCTTCGCGTCTCAGCCTCAGGGAGCCCCACAGCCCCAA  
GCTCGCTGAGGCAACGTGAGAACAGGCTATGGGAAGGCTGCAAAGGCTGAGAAATGCAAAGGCTCATATTTATAA  
ATCCCACCCCCAGAGTGGGGAGGGTCAGGTGCCAGACCTGGACTAAACTGCACCAAGGAAACACCCAGCAGGGTC  
TCCTGTGAGCCGGGGACCATGCAGCCCGAAACCTCCAGTCACTGCGCCCGGCAGGAGTCAGGAGCCAGGGACTGT  
GCAGCCTGGAACCTCCAGTCACTGTGCCAGCAGGGTGGGCTGTGCCAGCAGGAGTCAGGCTAAGAAACGCCAG  
GTCTGCTGTTCCTTGCTGGGCAATGGCTGATGGCTGCCAGTTTCTGCTGATACACAGGTAGGATGGGACCCTTCA  
TGAATATCTGACTTTAATAAGTTGGTAAGGATATATTTTTTTGTCTATGTTCTGTTTCACTTATGTAGATTATT  
ATAAATTGATGTAAACCACGTGAGAGGAAAATGTTAATAAAAAATGCAAAGCCCCATCATTTGCACAAAAC

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**FIGURE 4645**

GGGACCGAAAACCTTCAGGGAAGTCATTGCAGGGCCCTTGCTTAGAAAACAAATGGGCAGTCTCTGGAGAGCAGCAG  
CCTGGAGGGGTCTCACGTGGGCGTCTATTTCTCCGCACATTGGTGTCCGCCCTGCCGAAGCCTCACCCGGGTCTCT  
GGTGGAAATCCTACCGGAAGATCAAGGAGGCAGGCCAGAACTTCGAGATCATCTTCGTTAGTGCAGACAGGTTCGGA  
GGAGTCTTCAAACAGTACTTCAGTGAGATGCCCTGGCTCGCCGTCCCCCTACACGGATGAGGCCCGGCGGTTCGCG  
CCTCAACCGGTGTACGGAATCCAAGGCATCCCCACGCTCATCATGCTGGACCCGCAGGGCGAGGTGATCACGCG  
GCAGGGGCGGGTGGAGGTGCTGAACGACGAGGACTGCCGGGAGTTCCCCCTGGCACCCCAAGCCCGTGTCTGGAGCT  
CTCCGACTCCAACGCCGCGCAGCTTAACGAGGGCCCCCTGCCTCGTCTCTTTTGTAGATTCTGAGGATGACGGAGA  
GTCCGAGGCGGCCAAGCAGCTGATTACGCCGATAGCTGAGAAAATCATTGCCAAGTACAAAGCCAAAGAGGAGGA  
GGCACCCCTTCTGTTCTTCGTAGCCGGGGAGGATGACATGACTGACTCCCTGCGAGATTACACCAACCTGCCTGA  
GGCTGCCCCCTTGCTCACCATCCTGGACATGTGAGCCCGGGCCAAGTACGTGATGGACGTGGAGGAGATCACCCC  
CGCCATCGTGGAGGCCTTTGTGAATGACTTCCTAGCAGAGAAGCTCAAACCGGAGCCCATCTAGCGTGGCTCCGG  
CCTCTGAGACGTATTTTAAACTCAGCCTTCTCCTCCTCCCCCTCCTTCCCTCCGCCCTTGGACTTACCCAGCG  
TGCCCCGAATCCCACCACCCAAGTGTCCAGCCTCTCTGTGGTGCCTTGTCTGTCAGTAAACTCCTCAGCCAGCA  
CCCTGGGGTGTGGAATCAGCAGCGGCAGAGTCCACCGTGTGTTGGAGACTCTGTTGGGAGCACGGGATGGCCGGG  
GGCCCGGCCAGAGCGGGGCTGCATGGCTTTCGCAAAGTCACTAGCTTTTGGTGAAGGATCTGCCAGGGTGTCTTG  
GGCAGAGTGAGCGTGGAGGGCCGGTGGGTCCCGCTCGGGCTCTGACTCTGACGTCGGCACACACGGCCCCGGACG  
GCCAGAGGGGAACCGCCGGGTGACACCTGCGTGGAGGCTGAGCTGAGAAAAGGCCTCCGCTTAGAGCTGCGGGTG  
AGGACGTCTTTTCTAAGCAACACAGTCTTCTCGGTCTGAGAGAAAAGCAGCCCACTCTTGTGTTCTCAGGCAG  
GGGATCTCCAAATGCAAAAGGAAGCTTGTAGAGGTTTTTTGGGTGAGAAGAAAAATGTAGCTAAGGTAATGGTTC  
ATATCATACAAACAGCTCCCACGATCCTGAAATTCTGTTAACGAATCCTTCTCTTTGGACATCTTCCCAAGAAAC  
TTAGCCCTGAGTCTTAGGAGGAGCACCTCTGCACCAGCACGGACCTCTCGCTCCACCCAGCTCTGTGCCAAGGC  
CCCTGATCTCTGCTGAGGTGCCCACACCCACGTTTCGATCACCCCTGCCATTCCCTTTTATTTTCTTTTTTTTGGAG  
ATGGAGTCTTGCTCTGTCGCCCAGGCTGGAGTGCAGTGGCACCATCTTGGCTCACTTCAACCTCCGCCCCCAAGG  
TTCAAGTGATTCTCTGCTCAGCCTCCCGAGTAGCTGGGATTACAGGCACCCGCCACCGTACCTGGGTAATTTT  
TGTATTTTTTAGTAGAGATGGGGTTTACCATGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATCCACC  
CGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCGCCGTGCCCCGGCCCCCTTTTCTTTTCAAAGCAGA  
ACTACAAAGATGAGAAAATTACCAGAAGCCTCGCCTTTTCTAAGCACCAGCGGAAGGAGCTGTGCCCCGGGATGG  
AGTGAGGGTGGAGGGCGGCTCAGCCACGGGTGGGCCTTGTGTGCGCTTGTATCGGCCCAGGTAGGTGTTGGCCT  
CTTACTTGGGCTGACCTGACCCCCGAAAGAGAAACAGACAACTCTGTTCTCAGGATTGGGGATGGACGGCTTCGG  
CCAAGCGTTTTAGCCTCATTCACTCAGGCCCACTCAGCACTCTGCCAGCCAAGACCATGATTGGAAAATCCG  
GTCCCCACCCGCTAATGAGCTGTTGACACTGTTGTTCTTGCTGAATTGGATTGTTGACTTGTAGTTCAGAGGCG  
TACAAGTAGTTGGCGATTAGACTTGTATGTGATGTTACCAGCCTGAAATGCGATCACCCCGTAGGAAATAAAGC  
AGGCATCTCTGGACCTC



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**FIGURE 4646A**

TGGCCGTGTGATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGACTGCTGCTGTGCCCATTAACCTGTGGCCGTG  
TGATTGCTGCTGTGCCCATTAACCTGTGGCCGTGTGATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGATTGCT  
CTGTGCCCATTAACCTGTGGCCGTGTGATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGATTGCTCTGTGCCCA  
TTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGATTGCTCTGTGCCCATTAACCTGT  
GGCCGTGTGATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGATTGCTGCTGTGCCCATTAACCTGTGGCCGTGT  
GATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGATTGCTCTGTGCCCATTAACCTGTGGCTGTGTGATTGCTCT  
GTGCCCATTAACCTGTAGCCGTGTGATTGCTTCTGTGCCCATTAACCTGTGGCTGTGTGATTGCTGCTGTGCCCA  
TTATCCTGTGGCTGTGTGATTGCTGCTGTGCCCATTAACCTGTGGCTGTGTGATTGCTCTGTGCCCATTAACCTGT  
TGGCTGTGTGATTGCTCTGTGCCCATTAACCTGTGGCCGTGTGATTGCTGCTGTGCCTGTTACCTGTGGCTGTG  
TGATTGCTCTGTGCCCATTAACCTGTGGCTATGCTCCCTTCATCTGTCATGAGAAGCTCAGCTGTCATGTCCTGT  
GGTACATGCTCAGTGGCCCCGTGTAGTTTGTACTGTCCTCTATTTCTAAACCCCTCTCCCCACATCCTCTGCTGG  
CCCAGCCTTTGCTGGAGGGTCTCGCCTCAGCAGCCAGCTTTTTCTTTTACACACTTTTCTGAAGGATCTCAT  
TCACCGTCTTGGTTCCGGTGATCCCTCTGGGCAGATACCTCTCAGAATCACATTTCCAGCTTACTTCCCTCCT  
GAACTTCCACCTGGCATTTCCGTTGCTGGAGGACATCTGTACCTTGATGGCCAAAGCTGAACTCATCTTCTCTCA  
CACCTGCTCTGATTCTCCTCCATTCCCTGTATGTGATGTCACCTGGTGGCCTCCAGTTCCAGGCTGGAGAGCT  
CGGAAGCCATTCTGGATTCTCGGCCAAGTCCTTCTGACTCCAGCTGTGCAGTGGCTCTTGTAGTCATCCCTTCT  
CCCCGTCCGCTGATGTCCTTTAAACCCCTTGTCTATCTCAAACCATGACAGCCTACTAACAGCAGTGGCCATCTGG  
AAACATTTTCACTATACTGTCTTATTTGGCTTGTCTGTGTGCAGGACCCTTGAACATCTGTGAAGAAATGACTAT  
TCTGCATGGAGGCTTCTTGTGGCCGAGCAGCTGTTCCACCCTAAGGCACTGGCAGAATTAACAAAAGTCTGACTG  
GGAACGTGTTGGACGGCCCATCTGGAGGCCTTAAGGGAGATCTCCTCGGCTGCAGCACACTCCAGCCCTTTGC  
CTGGAAGAAGAAAGCCCTGATCATCATCTGGGCCAAGGTTCTGCAGCCGCACCCCGTGACCCCGTCCGACACAGA  
GACACGGTGGCAGGAAGACCTGTTCTTCTCGGTGGGCAACATGATCCCCACCATCAACCACACCATCCTCTTCGA  
GCTGCTCAAATCCCTGGAAGCTTCTGGACTCTTTATCCAGCTCCTGATGGCCCTGCCCACCACCATCTGCCATGC  
AGAAGTAGAGCGCTTTCTGGAACATGTGACCGTTGACACTTCTGCCGAAGACGTGGCCTTCTTCTGACGCTCTG  
GTGGGAGGTGATGAAGCACAAAGGTCACCCGCAGGACCCCTGCTCTCCAGTTTAGTGCAATGGCCCATAGTA  
CCTGCCTGCCTTAGATGAGTTCCCCCATCCTCCAAAGAGGCTTAGGTGACACCCAGACGCGTGGCCCATGCC  
CCTGTTGGCCATGCTGCTCCGCGGGCTGACACAGATCCAGAGTCGGATCCTGGGCCCCGGGGAGGAAGTGTGTGC  
GCTGGCCAACTGGCTGACATGCTGACTGTGTTTGCCTGACAGAGGACGACCCCGAGGAGGTGTGTGCAACCGT  
GTATCTGGACAAACTGGCCACGGTGATCTCTGTGTGGAACTCGGACACCCAGAATCCCTACCACGACGAGCGCT  
GGCAGAGAAGGTGAAGGAGGCAGAACGGGATGTCAGCCTGACCTCGCTGGCCAAACTXCCCCAGTGAGACCATT  
TCGTGGGCTGCGAGTTCTGACACACCTGCTGCGGGAGTGGGGGGAGGAGTTGACGCGCTGCTCCGACGAGCC  
AGGGGACAAGTTACGACAGCTACCGGCTGTGCGACAGTCTGACTTCCTTCAGCCAGAACGCGACGCTCTACCTGA  
ACCGCACCAGCCTGTCCAAGGAGGACAGGCAGGTGGTCTCTGAGCTGGCGGAGTGTGTGAGGACTTCCTGAGGA  
AAACGAGCACGGTGTGAAGAACAGGGCCTTGAGGATATCACAGCTTCCATTGCCATGGCCGTCTACAGCAGA  
AGATGGACCGCCATATGGAAGTGTGCTACATTTTGCCTCTGAGAAGAAGTGGGCCTTCTCGGACGAGTGGGTAG  
CCTGCCTGGGGAGTAACAGGGCCCTTCCGACAGCCAGACTTGGTGTGAGGCTGCTGGAAACAGTGATAGACG  
TCAGCACAGCTGACAGAGCCATCCCTGAGTCTCAGATCCGGCAGGTGATCCACCTGATCCTGGAATGTTACGCAG  
ACCTCTCCCTGCCAGGTAAAAATAAAGTCCTTGACAGGTATCCTGCGTTCTTGGGGGCGAAAGGGCCTCTCTGAAA  
AGTTGCTGGCTTATGTGGAGGGTTTTAGGAAGACCTCAATACAACCTTTTAACAGCTCACTCAGAGTGCCTCCG  
AACAGGGCTTGGCAAAGCTGTGGCCTCCGTGGCCCGCTGGTTCATAGTGCACCCGGAAGTCACGGTGAAGAAAA  
TGTGCAGCCTGGCTGTGGTCAATCTCGGCACCCACXAAXGTTCTGGCCAGATTCTCACTGCCTTCCCTGCCCT  
TAGGTTTGTGGAAGAGCAGGGTCCCAATTCATCTGCCACTTTCATGGTGTCTATGCCTCAAAGAAACCGTCTGGAT  
GAAGTTCTCTACACCAAGGAAGAAAAGCAATTTTTAGAGCTCCTGAACTGCCTGATGAGTCCCGTGAACCCCCA  
AGGGATTCCAGTGGCTGCTCTTCTTGAGCCAGACGAGGTGCTGAAGGAATTTGTCCTGCCTTTCTTGAGGTTAGA  
TGTTGAAGAGGTAGACCTCAGTCTGAGGATCTTCATCCAGACTCTAGAGGCAAACGCGTGGCAGAGGAATACTG  
GCTCCAGACCTGCTCCCCGTTTCCACTCCTCTTCAGCTTGTGCCAGCTCTTGGACCGCTTCAGCAAATACTGGCA  
GCTTCCCAAGGAGAAGCGGTGCCTCTCTTTGGATAGGAAGGATCTAGCGATCCATATCCTGGAGCTCCTGTGTGA  
GATTGTATCAGCCAATGCTGAGACCTTCTCCCCGATGTCTGGATCAAGTCCCTGTCTGGCTCCACCGCAAGTT

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**FIGURE 4646B**

AGAACAGCTAGACTGGACTGTGGGCCTGAGGCTGAAGAGCTTCTTCGAGGGGCACCTCAAGTGTGAAGTGCCAGC  
CXACAXCTTTTTGAGATCTGTAAGCTTTCAGAAGACGAGTGGACCTCCCAGGCCCACCCAGGGTACGGGGCTGGC  
ACGGGGCTCCTGGCCTGGATGGAGTGCTGCTGCGTCTCCAGCGGCATCTCGGAGAGGATGCTGTCTCTCTTGGTG  
GTGGACGTGGGCAATCCTGAGGAGGTCAGACTGTTTCAGCAAAGGCTTCTGGTGGCCCTGGTGCAAGTCATGCCT  
TGGTGCAGCCCTCAGGAGTGGCAGCGCCTTCACCAGCTGACCAGGAGACTGCTGGAGAAGCAGCTCCTCCATGTC  
CCTTATAGCCTGGAATATATTAGTTTGTTCCTGCTCAACCTGAAGCCCTTTGCCCAGGAGTTGCAACTCTCC  
GTCCTCTTCTGAGGACTTTCAGTTTCTCTGCAGCCATAGCTGTCTGATTGGCTTCTCTGGAAGGCTGGAAC  
CACGTGGTCAAACTCCTCTGTGGCAGTCTGACCCGCCTCCTGGACTCAGTCAGGGCGATACAGGCAGCTGGCCCT  
TGGGTTCAAGGACCAGAGCAGGACCTGACCCAGGAAGCCCTGTTTGTTCACCCAGGTGTTCTGCCATGCTCTG  
CACATCATGGCCATGCTCCACCCGGAGGTCTGTGAGCCACTCTACGTTTTAGCCTTGGAACCCCTCACCTGCTAT  
GAGACTTTGAGCAAGACCAACCCTTCTGTGAGCTCCTTGCTCCAGAGGGCACACGAGCAGCGCTTCTTAAAGTCC  
ATTGCTGAGGGCATCGGCCCTGAAGAACGGCGCCAAACCCTGTTGCAGAAGATGAGCAGCTTCTGACTTGGCGTG  
GGGAGCTGGGCCCCAACATGGCGGGTCTGCAGAAGATCAGCAGCTTCTTACCTGTGCGGGAGCGAAAAAGCTGGG  
CTTCAACATGGCAGGTCTGTAGGGGTGAGACCCGAGCAGCCTGGACTTTACAGTTATGTGAAACTGTCCACAAAA  
AGTCATGGCAATAATGGTGTAAGAAAATAGTTTCTTGGGTATTTGTAACGTACAAACTATCATAAAAATTCTCC  
TCTTTCGC

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**FIGURE 4647**

CCAACTTCGGCTATGACCTGTACCGGGTGCGATCCAGCATGAGCCCCACGACCAACGTGCTCCTGTCTCCTCTCA  
GTGTGGCCACGGCCCTCTCGGCCCTCTCGCTGGGAGCGGAGCAGCGAACAGAAATCCATCATTACCGGGCTCTCT  
ACTATGACTTGATCAGCAGCCCAGACATCCATGGTACCTATAAGGAGCTCCTTGACACGGTCACTGCCCCCAGA  
AGAACCTCAAGAGTGCCTCCCGGATCGTCTTTGAGAAGAAGCTGCGCATAAAATCCAGCTTTGTGGCACCTCTGG  
AAAAGTCATATGGGACCAGGCCAGAGTCCTGACGGGCAACCCCTCGCTTGACCTGCAAGAGATCAACAACCTGGG  
TGCAGGCGCAGATGAAAGGGAAGCTCGCCAGGTCCACAAAGGAAATCCCGATGAGATCAGCATTCTCCTTCTCG  
GTGTGGCGCACTTCAAGGGGCAGTGGGTAACAAAGTTTGACTCCAGAAAGACTTCCCTCGAGGATTTCTACTTGG  
ATGAAGAGAGGACCGTGAGGGTCCCCATGATGTCGGACCCTAAGGCTGTTTTACGCTATGGCTTGGATTGAGATC  
TCAGCTGCAAGATTGCCCAACTGCCCTTGACCGGAAGCATGAGTATCATCTTCTTCTGCCCCTGAAAGTGACCC  
AGAATTTGACCTTGATAGAGGAGAGCCTCACCTCCGAGTTCATTGATGACATAGACCGAGAAGTGAAGACCGTGC  
AGGCGGTCCCTCACTGTCCCCAAGCTGAAGCTGAGTTACGAAGGCGAAGTCACCAAGTCCCTGCAGGAGATGAAGC  
TGCAATCCTTGTTTGATTACCAGACTTTAGCAAGATCACAGGCAAACCCATCAAGCTGACTCAGGTGGAACACC  
GGGCTGGCTTTGAGTGAACGAGGATGGGGCGGGAACCAACCCCAAGGCTGCAGCCTGCCACCTCACCT  
TCCCGCTGGACTATCACCTTAACCAGCCTTTTCATCTTCGTACTGAGGGACACAGACACAGGGGCCCTTCTCTTCA  
TTGGCAAGATTCTGGACCCCAAGGGGCCCTAATATCCCAGTTTAATATTCCAATACCCTAGAAGAAAACCCGAGG  
GACAGCAGATTCCACAGGACACGAAGGCTGCCCCTGTAAGGTTTCAATGCATACAATAAAAGAGCTTTATCCCT

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**FIGURE 4648**

ATGGAAGAAGGCTCGGGGCCGAGCCACCCCGGACCGCCGGCCAGCCCCGGTACCTCCTCACC GCAATGGCCC  
CCTCGCTCAGCTGGCCGACCATGGCTCCACCGCCAAGACTTCCCCGCGGACCCCGCAACAGCTCCAGCTTCCCCA  
CCCGGACCTGAGGATGAGCTGTTTCTAAAAAGACTTTCTAAAGGTTACTTGGTGGGAAAGGACTCGGACGCTCCT  
CTTTTCTACAGAGAAGAAGGAAACAAAAATTTACAGGAGAAAGATTACACAGGAGCTGCAGTGCTGTACTCTAAG  
GGAGTGTACATTCAAGGCCTAACACTGAGGACATGTCACTGTGTGCTATGCTAACCGCTCGGCAGCCCTCTTCCAC  
CTGGGTCAGTATGAGACGTGTCTTAAAGACATTAACAGAGCACAGACACATGGGTATCCAGAAAGGTTGCAACCC  
AAGATTATGTTACGTAAAGCAGAATGTCTGGTGGCCCTGGGGAGACTGCAGGAGGCAAGCCAGACCATCAGTGAT  
CTTGAAAGGAACTTCACAGCCACACCAGCCCTAGCAGATGTCTCTCCCTCAGACTCTGCAGAGAAACCTCCATCGT  
CTGAAAATGAAGATGCAAGAAAAGGACAGTCTCACAGAAAGCTTCCCAGCAGCTCTGGCCAAAACCCCTTGAGGAT  
GCAGCGCTGAGGGAGGAGAATGAACAACCTTTCCAATGCCTCATCATCCATCGGCTTATGCGTAGATCCTTTAAAA  
GGTCGCTGTCTCGTTGCCACAAAAGATATTCTCCCAGGAGAGCTCCTGGTGCAGGAGGATGCTTTTGTGAGTGTT  
CTCAACCCAGGAGAACTGCCACCACCGCATCACGGCCTAGACAGCAAATGGGACACCAGAGTCACCAATGGGGAC  
CTCTATTGTACCGATGTTTGAAGCACACTTTGGCCACAGTTCGGTGTGACGGATGCAGTTATGCCAAGTATTGC  
AGCCAGGAGTGTTTGCAGCAGGCCTGGGAGCTCTACCACAGGACAGAATGTCTCTGGGAGGGCTGCTTCTCACA  
CTGGGTGTCTTTTGGCACATTGCCCTGAGGTTGACTCTTTTGGTGGGATTTGAGGATGTTTCGAAAATCATAACG  
AAGCTTTGTGATAAGATTAGTAACAAGGACATCTGTTTACCTGAAAGCAACAATCAGGTCAAGACACTTAATTAT  
GGCCTAGGGGAGAGTGAGAAAAATGGCAACATCGTTGAGACCCCAATTCTGGATGCGATATTAATGGGAAGTAT  
GAAAATAATTATAATGCTGTCTTCAACCTTTTGGCCACACTGAAAACCATAGCCCAGAGCACAAATTCCTCTGT  
GCTCTCTGTGTTTCTGCACTGTGCAGACAGCTAGAAGCAGCCAGTTTACAGGCCATCCCAACTGAGAGGATTGTG  
AACTCCTCTCAGCTTAAAGCAGCAGTGACACCTGAATTGTGTCTGACGTGACTATTTGGGGAGTGGCGATGCTG  
AGACACATGTTACAGCTTCAGTGTAACGCTCAGGCGATGACCACCATAACAACACACAGAGCGAGCTGTTACGCGG  
CTGTGGGGGTGCCAGCGTGACCCGAGAGCTTCTGTGGGCAGAGCACGCCGTGGTGGGAGAGATCGCGGATGGC  
CTGGCCCGGGCCTGTGCTGCCTTAGGAGACTGGCAAAAGTCAGCCACCCATCTACAGAGGAGTCTCTACGTGGTG  
GAGGTTGCCACGGGCCGTCCAGTGTTGAAATGGGCCATGAGCTCTTCAAATTGGCCCAGATCTTTTCAACGGG  
TTTGCAGTACCCGAAGCCCTGAGCACAAATACAGAAAGCTGAGGAGGTTCTGTGCTGCACTGTGGCCCATGGGAC  
GATGAAATCCAGGAGCTCCAGAAGATGAAATCCTGTTTGTGGACTTACCACCCACCCCTGTAGGGCCTGCATTG  
TAG

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**FIGURE 4649**

MSLCHANRSAALFHLGQYETCLKDINRAQTHGYPERLOPKIMLRKAECLVALGRLQEASQTISDLERNFTATPAL  
ADVLPQTLQRNLHRLKMKMQEKDSLTESFPAALAKTLEDAALREENEQLSNASSSIGLCVDPLKGRCLVATKDIL  
PGELLVQEDAFVSVLNPGEPPPHHGLDSKWDTRVTNGDLYCHRCLKHTLATVPCDGCSYAKYCSQECLQQAWEL  
YHRTECPLGGLLLTGVSFCHIALRLTLLVGFEVDVKIITKLCDKISNKDICLRESNNQVKTNLNYGLGEMLKWAMS  
SSNWPRSFSTGLQYPKP

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**FIGURE 4650**

AGAGTAGTTATCTTGATGGAAXTTAGAAGTTTTGAAGTCAGCTGAAGCAGTTGGAGTGAAGATTGGCAATCCAGT  
GCCCTATAATGAAGGACTCGGGCAGCCGCAAGTAGCTCCTCCAGCGCCAGCAGXCCAGCCCAGCAGCAAGCAGCA  
GGCCCCAGXCCGCXAXGAATGGAAGCTCGGGAATGGGTTCTACTGTTTCTAAGGCTTATGGTGCITCAAAGACAT  
TTGGAAGGCTGCAXGGTCCCAGCCTGTCACACACTTCTGGGGGAACAXCAGTCCAAAGTGGTGGCCATTGCCAG  
CCTCACTCCTTACCAGTCCAAGTGGACCATTTGTGCTCGTGTACCAACAAAAGTCAGATCCGTACCTGGAGCAA  
CTCCCGAGGGGAAGGGAAGCTTTTCTCCCTAGAACTGGTTGACGAAAGTGGTGAAATCCGAGCTACAGCTTTCAA  
TGAGCAAGTGGACAAGTTCTTTCCTCTTATTGAAGTGAACAAGGTGTATTATTTCTCGAAAGGCACCCTGAAGAT  
TGCTAACAAGCAGTTCACAGCTGTTAAAAATGACTACGAGATGACCTTCAATAACGAGACTTCCGTATGCCCTG  
TGAGGACGACCATCATTACCTACGGTTCAGTTTGATTTACGGGGATTGATGACCTCGAGAACAAGTCGAAAGA  
CTCACTTGTAGACATCATCGGGATCTGCAAGAGCTATGAAGACGCCACTAAATCACAGTGAGGTCTAACAACAG  
AGAAATTGCCAAGAGGAATATCTACTTGATGGACACATCCGGGAAGGTGGTGACTGCTACACTGTGGGGGGAAGA  
TGCTGATAAATTGATGGTTCTAGACAGCCCGTGTGGCTATCAAAGGAGCCCGAGTCTCXTGATTTCCGTGGAC  
GGAGCCTCTCCGTGCTGTCTTCAAGCAXCTATCATTGCGAATCCTGACATCCCAGAGGCCTATAAGCTTCGTGGA  
TGGTTTGACGCAGAAGGACAAGCCTTAGATGGTGTTCATCTCTGATCTAAAGAGCGGCGGAGTCGGAGGGAGT  
AACACCAACTGGAAAACCTTGTATGAGGTCAAATCCGAGAACCTGGGCCAAGGCGACAAGCCGGACTACTTTAGT  
TCTGTGGCCACAGTGGTGTATCTTCGCAAAGAGAACTGCATGTACCAAGCCTGCCGACTCAGGACTGCAATAAG  
AAAGTGATTGATCAACAGAATGGATTGTACCGCTGTGAGAAGTGGGACACCGAATTTCCCAATTTCAAGTACCGC  
ATGATCCTGTCAGTAAATATTGCAGATTTTCAAGAGAATCAGTGGGTGACTTGTTTCCAGGAGTCTGCTGAAGCT  
ATCCTTGACAAAATGCTGCTTATCTTGGGGAATTAAGAGACAAGAATGAACAGGCATTTGAAGAAGTTTTCCAG  
AATGCCAACTTCCGATCTTTCATATTACAGAGTCAGGGTCAAAGTGGAGACCTACAACGACGAGTCTCGAATTAAG  
GCCACTGTGATGGACGTGAAGCCCGTGGACTACAGAGAGTATGGCCGAAGGCTGGTCATGAGCATCAGGAGAAAGT  
GCATTGATGTGAGAGGAGCAGTGCCAATCGGGCAGAAGTTTGCAAATAGGCAGAATGGAATCGATTTCCCTCCAC  
CTCCGTGTGACGATCCCATGTTAGCTACACAGTGCAGAGGCTCTTGATGGTGGACTAAGCAATTTCCCTCCCTCGT  
GCGCATCTCAGAACCCATCGGTAGGCAAAGGAAAATACGCTCAGGTGGTTGTGGTGTAGACTGTGTGAGGCCTAC  
GGAGTCAGCCAGTGGCTAGCGCAAGACCAGTCACTCCCTCTGCCTTCAGGCTTCTGTCAATTTTATTATCATCAA  
GCAGGAATTATGTCGTAAGTCACTGACCCTAACTGCAGACCATGAAGTAAATTATGTAAGTAGGTTTTTGCTTCT  
CCAGTGGTGACCACCCCCCCCCATCCCCGCTCACAACCTGGGTTCTTCTCAGCGGGCGAGCTGAGAAGCGGTCA  
TGAGCACCTGGGGATTTTAGTAAGTGTGTCTTCCTA

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**FIGURE 4651**

GATGGCTGCGCTGTTGCTGAGACACGTTGGTCGTCATTGCCTCCGAGCCCACTTTAGCCCTCAGCTCTGTATCAG  
AAATTGGTCTCTTCCCATGGCGATGTCCATCTGCCACCGTGGCACTGGTATTGCTTTGAGTGCAGGGGTCTCTCT  
TTTTGGCATGTTGGCCGTGTTACTCCCTGGGAACTTTGAGTCTTATTTGGAACCTGTGAAGTCCCTGTGTCTGGG  
GCCAGCACTGATCCACACAGCTAAGTTTGCACTCGTCTTCCCTCTCATGTATCATACCTGGAATGGGATCCGACA  
CTTGATGTGGGACCTAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCTGGTTCTTAC  
TGTGTTGTCTCTATGGGGCTGGCAGCCATGTGAAGAAAGGAGGCTCCCAGCATCATCTTCTTACACATTATTAC  
ATTCACCCATCTTTCTGTTTGTCACTTCTATCTCCAGCCTGGGAAAAGTTCTCCTTATTTGTTTAGATCCTTTTG  
TATTTTCAGATCTCCTTGGAGCAGTAGAGTACCTGGTAGACCTTAATAGTGGAAAAGGGTCTAGTTTTCCCCTTG  
TTTCTAAAGATGAGGTGGCTGXCAAAAACCTCCCTTTTTTTGCCACAGCTTGCCCTACTCTCGGCCTAGAAGCAGT  
TATTCTCTCTCCATATTGGGCTTTGATTTGTGCTGAGGGTCAGCTTTTGGCTCCTTCTTCTGAGACAGTGGAAA  
CAATGCCAGCTCTXGTGGCTTCTXGCCCTGGGGACGGGCCGGGTGGGGGTGGGTTGGTGAGGCTTTGGGTGCCA  
CTACCTGTGGGTGCTGGCTTAAAGGACAATTCTCTTATTGGTGXAGAGCCAGGCCATTAAACACCTACACAGT  
GTTATTGAAAGAAGAGAGGTGGGGGTGGAGGGGAATTAGTCTGTCCCAGCTAGAGGGAGATAAAGAGGGCTAGTT  
AGTTCTTGXGAGCAGCTGCTTTTGAGGAGAAAATATATAGCTTTGGACACGAGGAAGATCCAGAAAATTATCATT  
GAACATATTAATGGTTATTTCTTTTTCTTGGATTTCCXAGAAAAGCCTCTTAATTTTATGCTTTCTCATCGAAGT  
AATGTACCCTTTTTTTCTGAAACTGAATTAAATACTCATTTT

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**FIGURE 4652**

MAALLLRHVGRHCLRAHFSPQLCIRNAVPLGTTAKEEMERFWNKNIGSNRPLSPHITIYSWSLPMAMSICHRGTG  
IALSAGVSLFGMSALLPGNFESYLELVKSLCLGPALHTAKFALVFPLMYHTWNGIRHLMWDLGKGLKIPQLYQ  
SGVVVLVLTIVLSSMGLAAM



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**FIGURE 4653**

GATGGCTGCGCTGTTGCTGAGACACGTTGGTCGTCATTGCCTCCGAGCCCACCTTTAGCCCTCAGCTCTGTATCAG  
AAATTGGTCTCTTCCCATGGCGATGTCCATCTGCCACCGTGGCACTGGTATTGCTTTGAGTGCAGATGTGGGACC  
TAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCCTGGTTCTTACTGTGTTGTCCTCTA  
TGGGGCTGGCAGCCATGTGAAGAAAGGAGGCTCCAGCATCATCTTCCTACACATTATTACATTCACCCATCTTT  
CTGTTTGTCAATCTTATCTCCAGCCTGGGAAAAGTTCTCCTTATTTGTTTAGATCCTTTTGTATTTTCAGATCTC  
CTTGGAGCAGTAGAGTACCTGGTAGACCTTAATAGTGGAAGGGTCTAGTTTCCCCTTGTTTCTAAAGATGAG  
GTGGCTGXCAAAAACCTCCCCTTTTTTGCCACAGCTTGCTACTCTCGGCCTAGAAGCAGTTAT

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**FIGURE 4654**

ATGGCCGCGCAGCGACCCCTGCGGGTCCTGTGCCTGGCGGGCTTCCGGCAGAGCGAGCGGGGCTTCCGTGAGAAG  
ACCGGGGCGCTGAGGAAGGCGCTGCGGGGTCGCGCCGAGCTCGTGTGCCTCAGCGGCCCGCACCCGGTCCCCGAC  
CCCCCGGGCCCCGAGGGCGCCAGATCAGACTTCGGGTCCTGCCCTCCGGAGGAGCAGCCTCGAGGCTGGTGGTTT  
TCAGAGCAGGAGGCCGACGTTTTCTCCGCATTGGAAGAGCCCGCGTCTGCAGGGGCCTGGAGGAATCACTGGGG  
ATGGTGGCACAGGCACTGAACAGGCTGGGGCCTTTTGACGGCCTTCTTGGTTTCAGCCAAGGGGCTGCGCTAGCA  
GCCCTTGTGTGTGCCCTGGGCCAGGCAGGCGATCCCCGCTTCCCCTTGCCACGGTTTATCCTCTTGGTGTCTGGT  
TTCTGTCCCCGGGGCATTGGGTTCAAGGAATCCATCCTGCAAAGGCCCTTGTCATTGCCTTCGCTCCATGTTTTT  
GGGGACACTGACAAAGTCATCCCCTCTCAGGAGAGTGTGCAACTGGCCAGCCAATTTCCCGGAGCCATCACCCCTC  
ACCCACTCTGGTGGCCACTTCATTCCAGCAGCTGCACCCAGCGTCAGGCCTACCTCAAGTTCTTGGACCAGTTT  
GCAGAGTGAAGATCAAGAAATGTCTCTGCTCCTACATCCAGCTCCTCTAGGGGCAGCCTCCGTATCCATGCCC  
TCCCAGGACCCTCCACTCACTGCTGTGAGTGCGCCTCACCAGAACCAGTTAAGAGACAACTATCAATTCTTGAGA  
CCCAAATTATAAGGGCCCTGCCCTGTACTGAAGAAAAGGGGAGCACAAGGCCTTAATGGACATTGACTTGTGAAA  
ACGCAAACATGAATATGGTTGGAGAGCCCTGGATTAGGAGGGTGACATGGGGAAGGCAGAGGCTGGCACGATGGT  
GACTGCCACATAATAAAGTGGTGATTTGGATTTTG

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**FIGURE 4655**

MAAQRPLRVLCLAGFRQSERGFREKTGALRKALRGRAELVCLSGPHVVPDPPGPEGARSDFGSCPPEEQPRGWWF  
SEQEADVFSALEEPAVCRGLEESLGMVAQALNRLGPF DGLLGFSQGAALAALVCALGQAGDPRFPLPRFILLVSG  
FCPRGIGFKESILQRELSLPSLHVFGD TDKVIPSQESVQLASQFPGAITLTHSGGHFIPAAAPQRQAYLKFLDQF  
AE

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**FIGURE 4656A**

GCGGCGAGGGCGCGGGGGCTCTGAGGACCGCTCGGCGCCGCTCCTGCCACACCATGGGCAGCGCAGAGGACGCA  
GTCAAAGAGAACTGCTGTGGAACGTGAAGAAGGAGGTGAAGCAAATCATGGAGGAGGCTGTCAACAGGAAGTTT  
GTGCATGAAGACAGCAGCCACATCATTGCTTTATGTGGTGCAGTGGAGGCTTGCCTCTTGATCAGCTGAGACGC  
CGTGCCGCTGGCTTCCTGCGCAGTGACAAGATGGCAGCCCTGTTTACCAAGGTGGGGAAGACGTGCCCAGTGGCG  
GGGAGATTTGCCACAAGGTACAGGAGCTGCAGCAACAAGCAGAGGGCAGGAAACCCTCAGGGGTCAGCCAGGAG  
GCCCTGCGGAGACAGGGCTCAGCCAGCGGGAAGGCCCGGCCCTCAGCCCTCAGGCCTTGAAACACGTATGGGTA  
CGCACGGCGCTCATCGAGAAAGTTCTGGACAAGGTCTGTGAATACCTGGCGGAAACTGCAGCAAGTACTACGAG  
AAGGAGGCACTGCTGGCAGACCCTGTGTTCTGGCCCCGATCCTGGCCTCTCTTCTAGTGGGACCCTGTGCCTTGGAA  
TACACTAAGCTCAAGACAGCCGATCACTACTGGACTGACCCCTCTGCTGATGAGCTGGTCCAGCGGCACCGCATC  
CGGGGTCCACCTACTCGCCAGGACTCCCCTGCAAAGCGCCAGCCCTGGGGATCCGGAAACGGCACTCAAGCGGC  
AGCGCGTCGGAGGACAGGCTGGCTGCTGCTGCCCCGAGTGTGTGGAGTCCCTGCACCAGAACTCACGGACGCGG  
CTGCTCTATGGCAAGAACCACGTGCTGGTGCAGCCGAAGGAGGATATGGAGGCGGTCCCTGGCTACCTCTCCCTG  
CACCAGTCTGCAGAGAGCCTGACTCTGAAGTGGACCCCCAACCAGCTCATGAATGGGACTCTGGGGGACTCCGAG  
CTGGAAAAGAGCGTTTACTGGGACTATGCCCTCGTGGTGCCTTCAGCCAGGTCTGTGTGCATCCACTGCCACCAG  
CAAAGAGCGGTGGCAGCCTTGTGCTGGTGGAGCAGGATGGCATCCAGAGGCCGCGCTGCATTTCCACAGGGA  
GGACACCTGCTGTCTTTCTGTCTGCTGAGAAATGGGCTGCTGCCTCGGGGACAGCTAGAGCCCCCGCTGTGG  
ACCCAGCAAGGGAAGGGGAAAGTGTTCCTCAAGCTACGGAAACGAAGCAGCATTCTGCTCCGTGGATATGGAGGAG  
ATGGGCACGGGGCGGGCCACCGACTATGTGTTCCGGATCATCTACCCCGGCCACAGGCACGAGCACAACGCTGGT  
GACATGATCGAGATGCAGGGCTTTGGGCCCCAGCCTGCCAGCCTGGCACCTGGAGCCCCTGTGCAGTCAGGGCTCC  
TCCTGCCTCTCCTGCTCCTCCAGCAGCTCCCCACATGCAACCCCCAGCCACTGTAGCTGCATCCCCGACCGGTTG  
CCGCTCAGGCTACTGTGTGAGAGTATGAAGAGGCAGATCGTGTCCCGGCCCTTCTACGGCTGGCTGGCACACTGC  
CGCCACCTGTCCACGGTGCAGGACCCACCTGTGCGCGTGGTGCACCATAGCGTTATCCACCTGACCGGCCCCCG  
GGGGCCTCCGCGGGCCTCACCAAGGACGTGTGGAGCAAGTATCAGAAGGACAAAAAGAACTACAAAGAGCTGGAG  
CTGCTGCGGCAAGTTTACTACGGAGGCATAGAGCAGGATCCGCAAGGACGTCTGGCCCTTTCTGCTTGGCCAC  
TACAAGTTCCGCATGAGCAAGAAGGAGATGGAGCAGGTGGACGCGAGTGGTGGCAGCAAGGTACCAGCAGGTGTTG  
GCAGAGTGAAGGCCTGCGAGGTGGTGGTGGAGCAGCGGGAGCGGGAGGCCACCCAGCCACACGCACCAAGTTC  
TCCTCAGGCAGCAGCATCGACAGCCACGTGCAGCGCTCATCCACCGAGACTCCACCATCAGCAACGATGTGTTT  
ATCTCAGTGGATGATCTGGAACCCCCGAGCCCCAGGACCTGAAGATTCCAGACCAAAACCTGAGCAGGAAGCA  
GGACCCGGGACTCCGGGCACCGCCGTGGTGGAGCAGCAGCATTCCTGGAGTTCGACTCTCCAGACTCAGGACTG  
CCCTCCTCTCGCAATTACTCEGTGGCCTCGGGCATCCAGTCAAGCCTAGATGAGGGGCAGAGCGTGGGCTTCGAA  
GAGGAGGACGGCGGTGGGGAGGAAGGCTCCAGTGGGCCCCGCCCTGCAGCTCACACTTTGAGGGAGCCCCAGGAT  
CCCAGCCAGGAGAAGCCTCAGGCCGAGAACTGGAGGCCGAGAGGAGCTTGCAGGCTGTGTGTGCGGCTGCCTAC  
ACTATAGAATTACTGGACACTGTGGCCTTAAACCTGCACCGCATAGACAAGGATGTGCAGAGGTGTGACCGCAAC  
TACTGGTACTTCACGCCCCCAACCTCGAGAGGCTCAGAGACGTATGTGCAGCTACGTGTGGGAGCACCTGGAC  
GTGGGCTATGTGCAGGGCATGTGCGATCTGCTGGCGCCTCTCCTGGTCACCTCGACAATGATCAGCTGGCCTAC  
AGCTGCTTCAGCCACCTCATGAAGAGGATGAGCCAGAACTTCCCCAACGGGGTGCCATGGACACCCACTTTGCC  
AACATGCGCTCCCTCATCCAGATCCTGGACTCAGAGCTGTTTGAGCTGATGCATCAGAATGGAGACTACACCCAC  
TTCTACTTCTGTTATCGCTGGTTCTGCTGGATTTTAAAGAGAGAACTGCTGTATGAGGATGTGTTTGTGTGTGG  
GAGGTGATCTGGGCAGCCAGGCACATCTCATCGGAGCACTTTGTCTGTTTCATCGCCCTCGCCCTGGTGGAGGCC  
TACCGAGAGATCATCCGTGACAACAACATGGACTTCACTGACATCATCAAGTTTTTCAATGAACGTGCTGAGCAT  
CACGATGCCCAGGAGATCCTGCGGATTGCCCGGACCTCGTCCACAAGGTGCAGATGCTCATAGAGAACAAGTGA  
GCTGGGGCCAGGAGGCAGCAGCCGTGCAGAGCCTGGGCTCCGGCAGGGAGAGGTGCAGGGGAGTCACCGCCGAGA  
CCTCCCCAGCCACCAACCGACCCACCTCTGTTCTTAACAAAGCGGTTGTGAGCCTGGATCCGACTCCCGGCAGT  
GCTGACCTGCAGGGCAAGTCAGGGGCCAGGATGCCCTCGGATCAGGGCCGGGATGGGAGGGGTACGCCTCAGGG  
AGCAGCTGCCTTGGGGGACACACCTACTCTGCTCCCTCTCACACATCTGGGAGTAGCCCCACTGCCACCTGCAG  
CCGACGCTGGACTGCTGCCACGAGTGAACCTGGGGCCCCACAGGATTAACAGGGGGCTATAGCGGCCCTGGGGCC  
TACTCAGCTGGGGTGGCAGAGGGCGAGAGGCTCTGTGCTGTGTCCCTTCTGAGGGTCCCTTTGCAGTCCCAGTAT  
ATTGTGCGTGCACCAGCCCCAGCTGGAGCAACCAAAACTGCTTCTGGTTTAGGCACACGTCACGGGTGCGGGAGA

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**FIGURE 4656B**

CCCGGGCACGGGAGACCCGGGCGCCTTCAGGCCGCTCCCCGAGATTCTGGGGCAGTCGGAAGATGTGGGCCCT  
GGGTGGGAGCAGCCCACTTCAGCAGCACTGCCACTGCCTTTGGCCACCTGAGGTGACCCCAGGCCTCCCCGGCC  
TTGTACAGTGTAACCTCTGTGTATCTGTACAGCCTCGCTCCTGCCACCCACCCCTTGCCTTCTGCATTAGGTA  
CCCTGAAAACCACGTGTAAGAAGTGATGCTTTTGCCAGTGGATGATCTGGAATGCGACCGGAGCACTTGCTCTGA  
GGAATCCCAGGGTGACTCTGTCGGGGAAGAATCCGGTCACAGCCTCCCCTCAGAGACAGGCCTCAGTTCGAGGGC  
AGCCCATTATCTGTGCGCAGACATCTGCCATGTCCCTGAGACTGCGGGAGGCAGGGGATGCATGGGTGTCCCCATC  
TGTCCCTGGTGAGAAGCAAGGCTAGCTCTGCCTTCCACATGCTTCTCAGGATGCCAAGAGGCCTAGGAACCCAGA  
AACCCCTTGAGGAGCTGTGTATGCGGGGGTGCCAGGAAGGGCATAGCTCCTGCCCCAGGCCTAGGCATGCTG  
CTTGCTCGGCCATCCCCACTTCCTCCTCTACCCCAACACATGCAGGCTAGGCCTTGCCCTGGAACATGGAGGCC  
TGCCCGGGGCTGGGGCCTAGTCCAGCAGCCACCAAGTCTGGCAGACTTTCTGCATTTGAGAAACATGACAAAGG  
GCCCCGAGCCCTTCTGCACCCAGCACAGCCTGCCAGCCAGCCCTGCCCCGGGCACTGCACAGCCTGTCTGG  
GGGCCAGACCACCCATTGTCCATCCTTGTTGTCCGTGAGTCCTTGGCCTCCACCAAGCACGTGTGGCCATTGTG  
TGCTGCCTTAGTGACTCCGTGGTTTTGTGAGGAGCAGAGTGTGTATGATTTTTGCCTCAGAACTATACTCTTC  
TGTGTAACAGACCAATAAACACATTTGTCAAC

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**FIGURE 4657**

MGSAEDAVKEKLLWNVKKEVKQIMEEAVTRKFVHEDSSHI IALCGAVEACLLHQLRRRAAGFLRSDKMAALFTKV  
GKTCPVAGEICHKVQELQQQAEGRKPSGVSQEALRRQGSASGKAPALSPQALKHVWVRTALIEKVLDKVVQYLAE  
NCSKYYEKEALLADPVFGPILASLLVGPCALEYTKLKTADHYWTDPSADELVQRHRIRGPPTRQDSPAKRPALGI  
RKRHSSGSASEDRLAACARECVESLHQNSRTRLLYGKNHVLVQPKEDMEAVPGYLSLHQAESLTLKWTPNQLMN  
GTLGDSELEKSVYWDYALVVPFSQVVCIHCHQQKSGGTLVLVSQDGIQRPPLHFPQGGHLLSFLSCLENGLLPRG  
QLEPPLWTQQGKGKVF PKLRKRSSIRSVDMEEMGTGRATDYVFRIIYPGHRHEHNAGDMIEMQGFGPSLPAAHLE  
PLCSQGSSCLSCSSSSSPHATPSHCSCIPDRLPLRLLCESMKRQIVSRAFYGWLAHCRHLSTVRTHLSALVHHSV  
IPPDRPPGASAGLTKDVWSKYQKDKKNYKELELLRQVYGGIEHEIRKDVWPFLLGHYKFGMSKKEME QVDAVVA  
ARYQQVLAEWKACEVVVRQREAREHPATRTKFSSGSSIDSHVQRLIHRDSTISNDVFISVDDLEPPEPQDPEDSR  
PKPEQEAGPGTPGTAVVEQQHSVEFDSPDSGLPSSRNYSVASGIQSSLDEGQSVGFEEEDGGGEEGSSGPGPAAH  
TLREPQDPSQEKPAQAGELEAGEELA AVCAAAYTIELLDTVALNLHRIDKDVQRCDRNYWYFTPPNLERLRDVMCS  
YVWEHLDVGYVQGMCDLLAPLLVTL DNDQLAYSCF SHLMKRMSQNF PNGGAMDT HFANMRS LIQ IILDSELFELMH  
QNGDYTHFYFCYRWFLLD FKRELLYEDVFAVWEVIWAARHISSEHFVLFIALALVEAYREI IRDNNMDFTDI IKF  
FNERAEHHAQEILRIARDLVHKVQMLIENK

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**FIGURE 4658**

CGCCGCCCAGCTCCCAGCCGAGGCTTTCTCAACCGCGTCAATAAAAGGCCGCCCGACCCGCCCCCGCGCCCCGC  
AGCCCTGCCGGACACCCCGGGCTGCAGCTGAGCGGGCGCAGACGGGCCGAGGCGGGCGCCGGGCGCGCAGGGACC  
GAGGGACCGAGTGCTCCCCATGAGCGCACGTGGGCCGGGCGGTCCGCAAGCCCGGCTGAGAGCGCGCCATGGGGC  
AGGCGGGCTGCAAGGGGCTCTGCCTGTCGCTGTTCTGACTACAAGACCGAGAAGTATGTCATCGCCAAGAACAAGA  
AGGTGGGCCTGCTGTACCGGCTGCTGCAGGCCTCCATCCTGGCGTACCTGGTTCGTATGGGTGTTCTTGATAAAGA  
AGGGTTACCAAGACGTGACACCTCCCTGCAGAGTGCTGTCATCACCAGTCAAGGGCGTGGCCTTCACCAACA  
CCTCGGATCTTGGGCAGCGGATCTGGGATGTCGCCGACTACGTCATTCCAGCCCAGAATGAAGGCATTCTTGATG  
GCGCGTGCTCCAAGGACAGCGACTGCCACGCTGGGGAAGCGGTTACAGCTGGAAACGGAGTGAAGACCGGCCGCT  
GCCTGCGGAGAGAGAACTTGGCCAGGGGCACCTGTGAGATCTTGCCTGGTGCCCGTTGGAGACAAGCTCCAGGC  
CGGAGGAGCCATTCTGAAGGAGGCCGAAGACTTCACCATTTTCATAAAGAACCACATCCGTTTCCCCAAATTCA  
ACTTCTCCAAAAGCAATGTGATGGACGTCAAGGACAGATCTTTCCTGAAATCATGCCACTTTGGCCCCAAGAACC  
ACTACTGCCCCATCTTCCGACTGGGCTCCGTGATCCGCTGGGCCGGGAGCGACTTCAGGATATAGCCCTGGAGG  
GTGGCGTGATAGGAATTAATATTGAATGGAAGTGTGATCTTGATAAAGCTGCCTCTGAGTGCCACCCTCACTATT  
CTTTTAGCCGTCTGGACAATAAACTTTCAAAGTCTGTCTCCTCCGGGTACAACCTTCAGATTTGCCAGATATTACC  
GAGACGCAGCCGGGTGGAGTTCCGCACCCTGATGAAAGCCTACGGGATCCGCTTTGACGTGATGGTGAACGGCA  
AGGGTGCTTTCTTCTGCGACCTGGTACTCATCTACCTCATCAAAAAGAGAGAGTTTTACCGTGACAAGAAGTACG  
AGGAAGTGAGGGGCCTAGAAGACAGTTCCCAGGAGGCCGAGGACGAGGCATCGGGGCTGGGGCTATCTGAGCAGC  
TCACATCTGGGCCAGGGCTGCTGGGGATGCCGGAGCAGCAGGAGCTGCAGGAGCCACCCGAGGCGAAGCGTGGAA  
GCAGCAGTCAGAAGGGGAACGGATCTGTGTGCCACAGCTCCTGGAGCCCCACAGGAGCACGTGAATTGCCTCTG  
CTTACGTTACAGGCCCTGTCTAAACCCAGCCGTCTAGCACCCAGTGATCCCATGCCTTTGGGAATCCCAGGATGC  
TGCCCAACGGGAAATTTGTACATTGGGTGCTATCAATGCCACATCACAGGGACCAGCCATCACAGAGCAAAGTGA  
CCTCCACGTCTGATGCTGGGGTCATCAGGACGGACCCATCATGGCTGTCTTTTGGCCACCCCCCTGCCGTCACT  
TCTTCTTTTCTCCGTGGCTGGCTTCCCGCACTAGGGAACGGGTGTAAATGGGGAACATGACTTCCTTCCGGAGT  
CCTTGAGCACCTCAGCTAAGGACCGCAGTGCCCTGTAGAGTTCCTAGATTACCTCACTGGGAATAGCATTGTGCG  
TGTCGGGAAAAGGGCTCCATTTGGTTCCAGCCCACTCCCTCTGCAAGTGCCACAGCTTCCTCAGAGCATACTC  
TCCAGTGGATCCAAGTACTCTCTCTCTAAAGACACCACCTTCCTGCCAGCTGTTTGCCTTAGGCCAGTACACA  
GAATTAAAGTGGGGGAGATGGCAGACGCTTTCTGGGACCTGCCCAAGATATGTATTCTCTGACACTCTTATTGG  
TCATAAAACAATAAATGGTGTCAATTC

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**FIGURE 4659**

GAACCGCCATCTTCCAGTAATTCGCCAAAATGACGAACACAAAGGGAAAGAGGAGAGGCACCGGATATATGTTCT  
CTAGGCCTTTTAGAAAACATGGAGATGTTCCCTTTGGCCACATATATGTGAATCTATAAGAAAGGTGATACTGTAG  
ACATCAAGGGAATGGGTACTGTTCAAAAAGGAATGCCCCACAAGGGTTACCATGGCAAACTGGAAGAGTCTACA  
ATGTTCCCCAGCATGCTGTTGGCATTGTTGTAAACAAACAAGTTAAGGGCAAGATTCTTGCCAAGAGAATTAATG  
TGCGTATTGAGCACATAAAGCACTCTAAGAGCCGAGATAGCTTCCTGGAACGCGTGAAGGAAAATGATCAGAAAA  
AGAAAGAAGCCAAAGAGAAAGGTACCTGGGTTCAACTAAAGCACCAGCCTGCTCCACCCAGGGAAGCACACTTTG  
TGAGAACCAACGGGAAGGCGCCTGAGCTGCTGGAACCTATTCCCTATGAATTCATGGCATAATAGGTGTTAAACA  
AAAAAAAAATAAAGGATCTCTGGGCTAC



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**FIGURE 4660**

MRTQRRERGEAPDICS LGLENMEMFLWPHICEIYKKGDTVDIKGMGT VQKGM PHKGYHGKTGRVYNVPQH AVGIV  
V NKQVK GKILAKRIN VRIEHIKHSKSRDSFLERV KENDQKKKEAKEKGTWVQLKHQPAPPREAHFVRTNGKAPEL  
LEPIPYEFMA

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**FIGURE 4661**

GAAAGATGGCGGCTACCTTACTAGCTGCTCGGGGAGCCGGGCCAGCACCGGCTTGGGGGCCGGAGGCGTTCCTC  
CAGACTGGGAAAGCCGAGAAGTTTCCACTGGGACCCTATCATGGCCGTGCAGTTTGACGGGGGCGTGGTTCTGG  
GGGCGGACTCCAGAACAACCACTGGGTCCTACATCGCCAATCGAGTGAAGCTGACACCTATTCACGACC  
GCATTTTCTGCTGTCGCTCAGGCTCAGCTGCTGATACCCAGGCAGTAGCTGATGCTGTACCTACCAGCTCGGTT  
TCCACAGCATTGAACTGAATGAGCCTCCACTGGTCCACACAGCAGCCAGCCTCTTTAAGGAGATGTGTTACCGAT  
ACCGGGAAGACCTGATGGCGGGAATCATCATCGCAGGCTGGGACCCTCAAGAAGGAGGGCAGGTGTACTCAGTGC  
CTATGGGGGGTATGATGGTAAGGCAGTCCTTTGCCATTGGAGGCTCCGGGAGCTCCTACATCTATGGCTATGTTG  
ATGCTACCTACCGGGAAGGCATGACCAAGGAAGAGTGTCTGCAATTCAGTCCAATGCTCTCGCTTTGGCCATGG  
AGCGGGATGGCTCCAGTGGAGGAGTGATCCGCCTGGCAGCCATTGCAGAGTCAGGGGTAGAGCGGCAAGTACTTT  
TGGGAGACCAGATACCCAAATTCGCCGTTGCCACTTTACCACCCGCCTGAATCCTGGGATTCTAGTATGCAATAA  
GAGATGCCCTGTACTGATGCAAAATTTAATAAAGTTTGTACAGAG

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**FIGURE 4662**

MAATLLAARGAGPAPAWGPEAFTPDWESREVSTGTTIMAVQFDGGVVLGADSRTTGTSGSYIANRVTDKLTPIHDRI  
FCCRSRSAADTQAVADAVTYQLGFHSIELNEPPLVHTAASLFKEMCYRYREDLMAGIIIAGWDPQEGGQVYSVPM  
GMMVRQSFAIGSGSSYIYGVDATYREGMTKEECLQFTANALALAMERDGSSGGVIRLAAIAESGVERQVLLG  
DQIPKFAVATLPPA

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**FIGURE 4663**

GGGGGAAGATGGCGGCAGCCGTTCTGAGTGGGCCCTCTGCGGGCTCCGCGGCTGGGGTTCTGGCGGGACCGGGG  
GTCTCTCGGCAGTGAGCTCGGGCCCGCGCTCCGCCTGCTGCTGCTGGAGAGTGTCTTCTGGTTTGCTGCAACCTC  
GAACGGGGTCTGCCGTTGCTCCGGTGCATCCCCAAACCGCTCGGCCACATTTGCCCGGGCTCATGTGCCATAT  
TGC GGCTGCATGGGTGCGTGGGCGGGGCCAGAACCTTTAGCTCTTGGGGCATTGGTGAGTCTCAGTAATGCAC  
GTCXTXXCAGTTCCATCAAACTCGGTTTGAGGGCCTGTGTCTGCTGTCCCTGCTGGTAGGGGAGAGCCCCACAG  
AGCTATTCCAGCAGCACTGTGTGCTTGGCTTCGGAGCATTAGCAGGTGTTACAGACCCAGGACCCGCCGTGCCA  
CAATGGAGCTGGCCGTGGCTGTCTGAGGGACCTCCTCCGATATGCAGCCAGCTGCCTGCACTGTTCCGGGACA  
TCTCCATGAACCACCTCCCTGGCCTTCTCACCTCCCTGCTGGGCCTCAGGCCAGAGTGTGAGCAGTCAGCATTGG  
AAGGAATGAAGGCTTGATGACCTATTTCCCTCGGGCTTGTTGTTCTCTCAAAGGCAAGCTGGCCTCATTTTTTC  
TGTCTAGGGTGGATGCCTTGAGCCCTCAGCTCCAACAGTTGGCCTGTGAGTGTATTCCCGGCTGCCCTCTTTAG  
GGGCTGGCTTTTCCCAAGGCCTGAAGCACACCGAGAGCTGGGAGCAGGAGCTACACAGTCTGCTGGCCTCACTGC  
ACACCCTGCTGGGGGCCCTGTACGAGGGAGCAGAGACTGCTCCTGTGCAGAATGAAGGCCCTGGGGTGGAGATGC  
TGCTGTCTCAGAAAGATGGTGATGCCCCATGTCTTCTCCAGCTTCGGCAGAGGTTTTCGGGACTGGCCCGCTGCC  
TAGGGCTCATGCTCAGCTCTGAGTTGGAGCTCCCGTGTCCGTCCCTGTGCAGGAAATCCTGGATTTCATCTGCC  
GGACCCTCAGCGTCAGTAGCAAGAATATTAGCTTGCATGGAGATGGTCCCCTGCGGCTGCTGCTGCTGCCCTCTA  
TCCACCTTGAGGCCTTGACCTGCTGTCTGCACTCATCTCGCGTGTGGAAGCCGGCTCTTGCGCTTTGGGATCC  
TGATCGGCCGCTGCTTCCCCAGGTCTCAATTCTGGAGCATCGGTAGAGATTCCCTCTCTCCAGGCCAGGAGA  
GGCCTTACAGCACGGTTCGGACCAAGGTGTATGCGATATTAGAGCTGTGGGTGCAGTTTTGTGGGGCCTCGGCGG  
GAATGCTTCAGGGAGGAGCCTCTGGAGAGGCCCTGCTCACCCACCTGCTCAGCGACATCTCCCCGCCAGCTGATG  
CCCTTAAGCTGCGTAGCCCCGCGGGGGAGCCCTGATGGGAGTTTGAGACTGGGAAGCCTAGCGCCCCCAAGAAGC  
TAAAGCTGGATGTGGGGGAAGCTATGGCCCCGCAAGCCACCGGAAAGGGGATAGCAATGCCAACAGCGACGTGT  
GTGCGGCTGCACTCAGAGGCCTCAGCCGACCATCTCATGTGTGGGCCTCTCATCAAGGAGGAGACTCACAGGA  
GACTGCATGACCTGGTCTCTCCCCCTGGTCATGGGTGTACAGCAGGGTGAGTCTTAGGCAGCTCCCCGTACACGA  
GCTCCCCGCTGCCGCCGTGAACCTCTACTGCCTGCTGCTGGCGCTGCTGCTGGCCCCGTCTCCTCGCTGCCACCTC  
CTCTTGCCCTGTGCCCTGCAAGCCTTCTCCCTCGGCCAGCGAGAAGATAGCCTTGAGGTCTCCTCTTTCTGCTCAG  
AAGCACTGGTGACCTGTGCTGCTCTGACCCACCCCCGGGTTCTCCCTGCAGCCCATGGGCCCCACCTGCCCCA  
CACCTGCTCCAGTTCCCCCTCCTGAGGCCCATCGCCCTTCAGGGCCCCACCGTTCCATCCTCCGGGCCCCATGC  
CCTCAGTGGGCTCCATGCCCTCAGCAGGCCCATGCCTTCAGCAGGCCCATGCCCTCAGCAGGCCCTGTGCCCT  
CGGCACGCCCTGGACCTCCACACAGCCAACACCTAGGCCTTTCTGTCCAGGCCTAGTGTCTGTCCCTCCCC  
GGCTTCTTCTGCGCCTGAGAACCACGGGCAGGCTCAAATGAGGACCCCATCCTTGCCCCCTAGTGGGACTCCCC  
CACCTACTATACCCCCAGATGAACTTTTGGGGGGAGAGTGCCCAGACCAGCCTTTGTCCACTATGACAAGGAGG  
AGGCATCTGATGTGGAGATCTCCTTGGAAGTGACTCTGATGACAGCGTGGTGATCGTGCCCGAXGGGGCTTCCC  
CCCCCTGCCACCCCCACACCTCAGGTGCCACACCACCCCTATAGCCCCACTGGGCCACCAACAGCCTCCCC  
TCTGTGCCAGCGAAGGAGGAGCCTGAAGAACTTCTGTCAGCCCCAGGGCCTCTCCCGCCACCCCCACCTCCGCC  
GCCGCTGTTCTGCTGCTGTGACGCTCCCTCCACCCAGTTGGTCCCTGAAGGGACTCCTGGTGGGGGAGGACC  
CCCAGCCCTGGAAGAGGATTTGACAGTTATTAATATCAACAGCAGTGATGAAGAGGAGGAGGAAGAGGAAGAAGA  
GGAAGAAGAAGAAGAGGAAGAAGAGGAAGAGGAGGAAGAGACTTTGAGGAAGAGGAAGAGGATGAAGAGGAATATT  
TGAAGAGGAAGAAGAGGAGGAAGAAGAGTTTGAGGAAGAATTTGAGGAAGAAGAAGGTGAGTTAGAGGAAGAAGA  
AGAAGAGGAGGATGAGGAGGAGGAAGAAGAACTGGAAGAGGTGGAAGACCTGGAGTTTGGCACAGCAGGAGGGGA  
GGTAGAAGAAGGTGCACCTCCACCCCCAACCTGCCTCCAGCTCTGCCTCCCCCTGAGTCTCCCCCAAAGGTGCA  
GCCAGAACCCGAACCTGAACCCGGGCTGCTTTTGAAGTGAGGAGCCAGGGACGGAGGAGGAGCGTGGGGCTGA  
CACAGCTCCACCCCTGGCCCCCTGAAGCGCTCCCTCCAGGGAGAGGTGGAGAGGGAAGGGGAAAGCCCTGCGGC  
AGGGCCCCCXTXCCXCCAGGAGCTTGTTGAAGAAGAGCCCTCTGCTCCCCCAACCCTGTTGGAAGAGGAGACT  
GAGGATGGGAGTGACAAGGTGCAGCCCCCACCAGAGACACCTGCAGAAGAAGAGATGGAGACAGAGACAGAGGCC  
GAAGCTCTCCAGGAAAAGGAGCAGGATGACACAGCTGCCATGCTGGCCGACTTCATCGATTGTCCCCCTGATGAT  
GAGAAGCCACCACCTCCACAGAGCCTGACTCCTAGCCATCTTCTGCACCCCACTCTTTGTTTCCAATAAAGTTA  
TGTCCTTAGATAGCG

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**FIGURE 4664**

MAAAVLSGPSAGSAAGVPGGTGGLSAVSSGPRLRLLLLLESVSGLLQPRTGSAVAPVHPPNRSAPHLPGMLCLLRL  
HGSVGGAQNLSALGALVSLSNARLSSIKTRFEGLCLLSLLVGESPTELFQQHCVSWLRSIQQVLQTQDPPATMEL  
AVAVLRDLLRYAAQLPALFRDISMNLPGLLTSLGLRPECEQSALEGMKACMTYFPRACGSLKGKLASFFLSRV  
DALSPQLQQLACECYSRLPSLGAGFSQGLKHTEWEQELHSLLASLHTLLGALYEGAETAPVQNEGPGVEMLLSS  
EDGDAHVLLQLRQRFSGLARCLGLMLSSEFGAPVSVPVQEILDFICRTLSVSSKNISLHGDGPLRLLLLPSIHLE  
ALDLLSALILACGSRLRLRFGILIGRLLPQVLNSWSIGRDSLSPGQERPYSTVVRTKVYAILLELWVQVCGASAGMLQ  
GGASGEALLTHLLSDISPPADALKLRSPRGSPDGSQTGKPSAPKKLKLDVGEAMAPPSHRKGDSNANSADVCAAA  
LRGLSRTILMCGPLIKEETHRRLHDLVLPVLMGVQQGEVLGSSPYTSSRCRRELYCLLLALLLAPSPRCPPPLAC  
ALQAFSLGQREDSLEVSSFCSEALVTCAALTHPRVPPLQPMGPTCPTPAPVPPPEAPSPFRAPPFHPPGMPSPVG  
SMPSAGPMPSAGPMPSAGPVPSARPGPPTTANHLGLSVPGLVSVPPRLLPGPENHRAGSNEDFILAPSGTTPPTI  
PPDETFFGGRVPRPAFVHYDKEEASDVEISLESDDSVVIVPEGLPPLPPPPPSGATPPPIAPTGPPTASPPVPA  
KEEPEELPAAPGPLPPPPPPPPPPVPGPVTLPPLPQLVPEGTPGGGGPPALEEDLTVININSSDEEEEEEEEEEEEE  
EEEEEEEEEDFEEEEDEEEYFEEEEEEEEEEFEEFEEFEEGELEEEEEEEDEEEEEEELEEVEDLEFGTAGGEVEEG  
APPPPTLPPALPPPESPPKVQPEPEPEPEGLLLEVEEPGTEEERGADTAPTLAPEALPSQGEVEREGESPAAGPPP  
QELVEEEP SAPPTLLEETEDGSDKVQPPPETPAEEEMETETEAELQEKEQDDTAAMLADFIDCFPDDEKPPPP  
TEPDS

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**FIGURE 4665**

ACAGCGAGCGGAGCCGCGGTCCGGACGGCAGCGCGTGCCCCGAGCTCTCCGCCCTCCCCCGCCCGCCAGCCGAGG  
CAGCTCGAGCCCAGTCCGCGGCCCCAGCAGCAGCGCCGAGAGCAGCCCCAGTAGCAGCGCCATGGCCGGGTGGAA  
CGCCTACATCGACAACCTCATGGCGGACGGGACCTGTCAGGACGCGGCCATCGTGGGCTACAAGGACTCGCCCTC  
CGTCTGGGCCGCGTCCCCGGGAAAACGTTTCGTCAACATCACGCCAGCTGAGGTGGGTGTCCTGGTTGGCAAAGA  
CCGGTCAAGTTTTTACGTGAATGGGCTGACACTTGGGGGCCAGAAATGTTCCGGTGATCCGGGACTCACTGCTGCA  
GGATGGGGAATTTAGCATGGATCTTCGTACCAAGAGCACCGGTGGGGCCCCCACCTTCAATGTCACTGTCACCAA  
GACTGACAAGACGCTAGTCCTGCTGATGGGCAAAGAAGGTGTCCACGGTGGTTTGATCAACAAGAAATGTTATGA  
AATGGCCTCCACCTTCGGCGTTCCAGTACTTGACTCGTCTGTCCCTTCCCCTTCACCGCTCCCCACAGCTTTG  
CACCCCTTTCCTCCCCATACACACAAAACATTTTATTTTTTGGGCCATTACCCCATACCCCTTATTGCTGCCA  
AAACCACATGGGCTGGGGGCCAGGGCTGGATGGACAGACACCTCCCCCTACCCATATCCCTCCCGTGTGTGGTTG  
GAAAACTTTGTTTTTTGGGGTTTTTTTTTCTGAATAAAAAAGATTCTACTAACAAAAAAAAAAAAAAAAAAAA  
AAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4666**

MAGWNAYIDNLMADGTCQDAAIVGYKDSPSVWAAVPGKTFVNITPAEVGVLVGKDRSSFYVNGLTLLGGQKCSVIR  
DSLQLQDGEFSMDLRTKSTGGAPTFNVTVTCTDKTLVLLMGKEGVHGGLINKKCYEMASHLRRSQY

**FIGURE 4667A**

[illegible]



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**FIGURE 4667B**

TTCTCACCAAGAAGCAGGACCAGGCAGCCCAGGATCATGAGATTCTGCGGCGCTGCCGACACAGGATGAGGG  
AACTGAAGCAGAACCAGGAGCTGGAAGGGCTTCCCCAGCCGGGACTGGCCACATGACCTGGCCACCGCCTTTCTC  
ACCACCTGGGGGCGCCTCGTGCACTCTTAACAGGGAGAGGGCTTTCTGGGGCAGGGGGAGCCCCTGTCGGCAGC  
TTTCTGTTCACCTTTGTTGGAGCCCTCTGTAGGCCTCCTCCCTCCTCCCCACGCCTTGCTCCACACCCCTCTC  
CTCGTCCCTCCTGGTCGTGCCCCGTCTCTTTTGGTCCTGGCTCCAGAAAACCCGCGCCCCACATACCTGCATCTT  
CCGCTGTGACCTCCGGAGCCCTGCCTGCCCCCTGCTCCCCAGCTCCTCCTGCCTGCACCCGACTCGGCCCCCTCCT  
GACTTGCTTATTTATTTGTTTCGACGCGTCTCTGAATGTATCCGCTCGGTTCCCACCACTGCCTTCGCTGCGCA  
CGCCCCCTCGTGTTTCAGGGCTGACCGTGTCCCCACCCGACTCCGCATGTTTGCGTCTGTTTCCTCCCTCTCTGGC  
CCTGTCTTACCCCATCACCCGACTCTGGCCACTGACCTCAGGGCCGAAGGGGAGGTGGTGTACATAGGAACGCGT  
TGCGGAGTCCGCCCCGTCCCCCGAGGGGAGGGGTCTTGTACATACTGTAACATACAGAGTATAGTGAAGAATCTA  
TTTAAGGCGCCGCGGGGAGGGCTGCACGGCCGGGCTTGTGGTTCTCTAGCGCGGGCGGGGGCCTCCTGCCGGCTCC  
ACGGGCACTTTCTACTTGTGTCATGGGCTTGGTTTATACGAATTGCCATTAAACATCGCTGCACC

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**FIGURE 4668**

MNTKDTTEVAENSHHLKIFLPKKLLECLPRCPLLPPERLRWNTNEEIASYLITFEKHDEWLSCAPKTRPQNGSII  
LYNRKKVKYRKDGYLWKKRKDGKTTREDHMKLVQGMCELYGCVHSSIVPTFHRRCYWLLQNPDIVLVHYLNVP  
ALEDCGKGCSPIFCSISSDRREW LKWSREELLGQLKPMFHGIKWSCGNGTEEF SVEHLVQQILDTHPTKPAPRTH  
ACLCSGGLGSGSLTHKCSSTKHRIISP KVEPRALTLSIPHAHPPEPPPLIAPLPPELPKAHTSPSSSSSSSSSSG  
FAEPLEIRPSPPTSRGGSSRGGTAILLLTGLEQRAGGLTPTRHLAPQADPRPSMSLAVVVGTEPSAPPAPPSPAF  
DPDRFLNSPQRGQTYGGGQGVSPDFPEAEAAHTPCSALEPAAALEPQAAAARGPPPQSVAGGRRGNCFIQQDDDSG  
EELKGHGAAPP IPSPPPSPPPS PAPLEPSSRVGRGEALFGGPVGASELEPFSLSFFDLMGELISDEAPSIPAPT  
PQLSPALSTITDF SPEWSYPEGGVKVLITGPWTEAAEHYSCVFDHIAVPASLVQPGVLR CYCPAHEVGLVSLQVA  
GREGPLSASVLF EYRARRFLSLPSTQLDWLSLDDNQFRMSILERLEQMEKRMAEIAAAGQVPCQGPDAPPVQDEG  
QGPGFEARVVVLVESMIPRSTWKGPERLAHGSPFRGMSLLHLAAAQGYARLIETLSQWRSVETGSLDLEQEVDP L  
NVDHFSCTPLMWACALGHLEAAVLLFRWNRQALSIPDSLGRPLPSVAHSRGHVRLARCLEELQRQEPSVEPPFAL  
SPSSSPDTGLSSVSSPSELSDGTF SVTSAYSSAPDGSPPAPLPASEMTMEDMAPGQLSSGVPEAPLLLMDYEA  
TNSKGPLSSLPALPPASDDGAAPEDADSPQAVDVIPVDMISLAKQII EATPERIKREDFVGLPEAGASMRERTGA  
VGLSETMSWLASYLENVDHFP SSTPPSELPFERGRLAVPSAPSWAEFLSASTSGKMESDFALLTSLDHEQRELYE  
AARVIQTAFRKYKGRRLKEQQEVAAAVIQRCYRKYKQLTWIALKFALYKKMTQAAILIQSKFRSYEQKRFQQSR  
RAAVLIQQHYRSYRRRP GPPHRTSATLPARNKGSFLT KQDQAARKIMRFLRRCRHRMRELKQNQELEGLPQPG L  
AT

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**FIGURE 4669**

AGGACGTGGGCGTGCAGGACGCGGGCGTGCAGGACGCCAGAGCTGGGTCAGAGCTCGAGCCAGCGGCGCCCGGAG  
AGATTCGGAG**ATG**CAGGCGGCTCGGATGGCCGCGAGCTTGGGGCGGCAGCTGCTGAGGCTCGGGGGCGGAAGCTC  
GCGGCTCACGGCGCTCCTGGGGCAGCCCCGGCCCCGGCCCTGCCGGCGGCCCTATGCCGGGGGTGCCGCTCAGCT  
GGCTCTGGACAAGTCAGATTCCCACCCCTCTGACGCTCTGACCAGGAAAAACCGGCCAAGGCGGAATCTAAGTC  
CTTTGCTGTGGGAATGTTCAAAGGCCAGCTCACCACAGATCAGGTGTTCCCATACCCGTCCGTGCTCAACGAAGA  
GCAGACACAGTTTCTTAAAGAGCTGGTGGAGCCTGTGTCCCGTTTCTTCGAGGAAGTGAACGATCCCGCCAAGAA  
TGACGCTCTGGAGATGGTGGAGGAGACCACTTGGCAGGGCCTCAAGGAGCTGGGGGGCCTTTGGTCTGCAAGTGCC  
CAGTGAGCTGGGTGGTGTGGGCCTTTGCAACACCCAGTACGCCCGTTTGGTGGAGATCGTGGGCATGCATGACCT  
TGGCGTGGGCATTACCCTGGGGGGCCATCAGAGCATCGGTTTCAAAGGCATCCTGCTCTTTGGCACAAAGGCCCA  
GAAAGAAAAATACCTCCCCAAGCTGGCATCTGGGGAGACTGTGGCCGCTTTCTGTCTAACCGAGCCCTCAAGCGG  
GTCAGATGCAGCCTCCATCCGAACCTCTGCTGTGCCAGCCCCCTGTGGAAAATACTATACCCCTCAATGGAAGCAA  
GCTTTGGATCAGTAATGGGGGCTAGCAGACATCTTCACGGTCTTTGCCAAGACACCAGTTACAGATCCAGCCAC  
AGGAGCCGTGAAGGAGAAGATCACAGCTTTTGTGGTGGAGAGGGGCTTCGGGGGCATTACCCATGGGCCCCCTGA  
GAAGAAGATGGGCATCAAGGCTTCAAACACAGCAGAGGTGTTCTTTGATGGAGTACGGGTGCCATCGGAGAAGCT  
GCTGGGTGAGGTTGGGAGTGGCTTCAAGGTTGCCATGCACATCCTCAACAATGGAAGGTTTGGCATGGCTGCGGC  
CCTGGCAGGTACCATGAGAGGCATCATTGCTAAGGCGGTAGATCATGCCACTAATCGTACCCAGTTTGGGGAGAA  
AATTCACAACCTTTGGGCTGATCCAGGAGAAGCTGGCACGGATGGTTATGCTGCAGTATGTAAGTGAAGTCCATGGC  
TTACATGGTGAAGTCTAACATGGACCAGGGAGCCACGGACTTCCAGATAGAGGCCGCCATCAGCAAAATCTTTGG  
CTCGGAGGCAGCCTGGAAGGTGACAGATGAATGCATCAAATCATGGGGGGTATGGGCTTCATGAAGGAACCTGG  
AGTAGAGCGTGTGCTCCGAGATCTTCGCATCTTCCGGATCTTTGAGGGGACAAATGACATTCTTCGGCTGTTTGT  
GGCTCTGCAGGGCTGTATGGACAAAGGAAAGGAGCTCTCTGGGCTTGGCAGTGCTCTAAAGAATCCCTTTGGGAA  
TGCTGGCCTCCTGCTAGGAGAGGCAGGCAAACAGCTGAGGCGGCGGGCAGGGCTGGGCAGCGGCCTGAGTCTCAG  
CGGACTTGTCCACCCGGAGTTGAGTCGGAGTGGCGAGCTGGCAGTACGGGCTCTGGAGCAGTTTGCCACTGTGGT  
GGAGGCCAAGCTGATAAAACACAAGAAGGGGATTGTCAATGAACAGTTTCTGCTGCAGCGGCTGGCAGACGGGGC  
CATCGACCTCTATGCCATGGTGGTGGTTCTCTCGAGGGCCTCAAGATCCCTGAGTGAGGGCCACCCACGGCCCCA  
GCATGAGAAAATGCTCTGTGACACCTGGTGTATCGAGGCTGCAGCTCGGATCCGAGAGGGCATGGCCGCCCTGCA  
GTCTGACCCCTGGCAGCAAGAGCTCTACCGCAACTTCAAAGCATCTCCAAGGCCTTGGTGGAGCGGGGTGGTGT  
GGTCACCAGCAACCCACTTGGCTTCT**TGA**AATACTCCCGGCCAGGGCCTGTCCAGTTATGTGCCTTCCCTCAAGCC  
AAAGCCGAAGCCCCTTTCTTAAGGCCCTGGTTTGTCCGAAGGGGCTAGTGTTCCCAGCACTGTGCCTGCTCT  
CAAGAGCACTTACTGCCTCGCAAATAATAAAAATTTCTAGCCAG

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**FIGURE 4670**

MQAARMAASLGRQLLRLLGGSSRLTALLGQPRPGPARRPYAGGAAQLALDKSDSHPSDALTRKKPAKESKFAV  
GMFKGQLTTDQVFYPYPSVLNEEQTOFLKELVEPVSRFFEEVNDPAKNDALEMVEETTWQGLKELGAFGLQVPSEL  
GGVGLCNTQYARLVEIVGMHDLGVGITLGAHQSIGFKGILLFGTKAQKEKYLPKLASGETVAAFCLTEPSSGSDA  
ASIRTSAPVSPCGKYITLNGSKLWISNGGLADIFTVFAKTPVTDPATGAVKEKITAFVVERGFGGITHGPPEKKM  
GIKASNTAEVFFDGVVRVPSENVLGEVSGSKVAMHILNNGRFGMAAALAGTMRGIIAKAVDHATNRTQFGEKIH  
FGLIQEKLARMVMLQYVTESMAYMVSANMDQGATDFQIEAAISKIFGSEAAWKVTDECIQIMGGMGFMKEPGVER  
VLRDLRIFRIFEGTNDILRLFVALQGCMDKGKELSGLSALKNPFGNAGLLLGEAGKQLRRRAGLGSGLSLSGLV  
HPELSRSGELAVRALEQFATVVEAKLIKHKKGIVNEQFLQLRLADGAIDLYAMVVLSRASRSLSEGHPTAQHEK  
MLCDTWCIEAAARIREGMAALQSDPWQQELYRNFKSISKALVERGGVVTSNPLGF

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**FIGURE 4671**

GAGACCATGGCGGGTAGCAGCACTGGGGGCGGTGGGGTTGGGGAGACGAAGGTGATTACCACCTGGATGAGGAA  
GAGACTCCCTACCTGGTGAAGATCCCTGTCCCCGCCGAGCGCATCACCTCGGCGATTCAAGAGCGTCCTGCAG  
CGGCCCCGCGGGCGCCAAGTACTTTTTCAAGTCTATGGATCAGGATTTGGGGTGGTGAAGGAAGAAATTTTCAGAT  
GACAACGCCCCGCTCCCTGCTTCAACGGAAGGGTGGTATCCTGGCTGGTGTCTCAGATAATCCCCAACCCGAG  
ATGGCCCCCTCCAGTCCATGAGGCTCGGGCAGAACTGGCGCCTCCAGCCCCACCTTTACCTCCTTTGCCACCCGAG  
AGGACCAGCGGCATTGGGGACTCAAGGCCTCCATCCTTCCACCCTAATGTGTCCAGCAGCCATGAGAATCTGGAG  
CCTGAGACAGAAACCGAGTCAGTAGTGTCACTGAGGCGGGAGCGGCCTCGCAGGAGAGACAGCAGTGAGCATGGC  
GCTGGGGGCCACAGGACTGGTGGCCCCCTCAAGGCTGGAGCGCCACCTGGCCGGATACGAGAGCTCCTCTACCCCTC  
ATGACCAGCGAGCTGGAGAGTACCAGCCTGGGGGACTCGGACGAGGAGGACACCATGAGCAGGTTTCAGCAGCTCC  
ACGGAGCAGAGCAGTGCCCTCCCGCCTCCTTAAGCGCCACCGGCGGGCGAAGGAAGCAGAGGCCACCCCGCCTGGAG  
AGGACGTCATCCTTCAGCAGCGTCACAGATTCCACAATGTCTCTCAATATCATCACAGTCACGCTAAACATGGAG  
AAGTACAACCTTCTGGGTATCTCCATTGTTGGCCAGAGCAATGAGCGGGGAGACGGAGGCATCTACATTGGCTCC  
ATCATGAAGGGTGGGGCTGTGGCGGCCGACGGGCGCATTGAGCCAGGGGACATGCTTTTGAGGTGAATGACATG  
AACTTTGAGAACATGAGCAACGATGACGCTGTGCGGGTGTGAGGGACATTGTGCACAAGCCTGGCCCCATTGTG  
CTGACTGTGGCCAAGTGCTGGGATCCCTCTCCTCAGGCCTATTTCACTCTCCCCGAAATGAGCCCATCCAGCCA  
ATTGACCCTGCTGCCTGGGTGTCCCATTCGCGGGCTCTGACTGGCACCTTCCCAGCCTATCCAGGTTCTCTCTCC  
ATGAGCACCATTACATCTGGATCGTCTTTGCCTGATGGCTGTGAAGCCGGGGTCTCTCCGTCCATACGGACATG  
GCATCGGTGACCAAGGCCATGGCAGCTCCAGAGTCTGGACTGGAAGTCCGGGACCGCATGTGGCTCAAGATCACC  
ATCCCTAATGCCTTTCTGGGCTCGGATGTGGTTGACTGGCTCTACCATCACGTGGAGGGCTTTCTTGAGCGGCGG  
GAGGCCCCGAAGTATGCCAGCGGGTGTCTCAAAGCAGGCCTGATCCGACACACCGTCAACAAGATCACCTTCTCT  
GAGCAGTGCTATTACGTCTTCGGAGACCTCAGTGGTGGCTGTGAGAGCTACCTAGTCAACCTGTCTCTCAATGAC  
AACGATGGCTCCAGTGGGGCTTCAGACCAGGATACCCTGGCTCCTCTGCCTGGGGCCACCCCCTGGCCCCCTGCTG  
CCCCTTTCTCCTACCAAGTACCCTGCCCCACACCCCTACAGCCCGCAGCCTCCACCCTACCATGAGCTTTTCATCT  
TACACCTATGGTGGGGGAGTGCAGCAGCCAGCATAGTGAGGGCAGCCGGAGCAGTGGGTGACACGGAGTGAT  
GGGGGGGAGGGCGCACGGGGAGGCCCGAGGAGCGGGCCCCCGAGTCCAAGTCCGGCAGTGGCAGTGAGTCTGAG  
CCCTCCAGCCGAGGGGGCAGCCTTCGGCGGGGTGGGGAAGCAAGTGGGACTAGCGATGGGGGCCCTCCTCCATCC  
AGAGGCTCAACTGGGGGTGCCCTAATCTCCGAGCCACCCAGGGCTCCATCCCTATGGACCGCCCCCTGGCATG  
GCCCTCCCCTACAACCCCATGATGGTGGTCATGATGCCCCACCTCCACCTCCAGTCCCTCCAGCAGTGACGCCT  
CCGGGGGGCCCTCCAGTCAGAGACCTGGGCTCTGTGCCCCAGAACTGACAGCCAGCCGCCAAAGCTTCCACATG  
GCCATGGGCAATCCCAGCGAGTTCTTTGTGGATGTTATGTAGCCCACTGTGGGGCCAGGCTGGGCGGGGCGCTCC  
TGGTGTGACTGGGTGTCTGGCCGTATGTGCTTGTCTTACAGTGCCTGGGCTCAGCCTACCAGCTGCTGCC  
ATACAGGAGATTGTGGCCACTGTGACTCTCACCAGCAGTGCTGTTTCTCCCCCTTCCCTCAGGGGTAGACAAG  
GGACCTTTGATTATTTTTAGCTTTGTTTTTTTATAAGCCTTTTTGGGGTTAAAATAGAGTTTCTTACATTTTTG  
GGACTTTTTTAATAGGCATTTCTCTTTT

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**FIGURE 4672**

AAAAAAAAAAGAGGGAGGTGGCGGCAGCGGCTAGCGGACTCGAGTCTCAACCGGGCTGAGGCGGACACTTCTG  
TGGAGCGAAGCAGTGGGAGCATCGAGCACTAGAGGCGGCACCGGGATCCCCGGCTCCGGGGAGGGGGGCGCCGGA  
CCGGGAGGAGGGGAGGGGGCGATGCTGGAAGCCATGGCGGAGCCCAGTCCCGAAGATCCACCTCCGACCCTTAAG  
CCAGAGACTCAGCCACCAGAGAAACGGCGGAGAAACAATTGAGGATTTCAACAAATTCTGCAGTTTTGTTTTGGCA  
TATGCTGGTTACATTCCCCCTAGCAAAGAGGAAAGTGACTGGCCAGCCTCTGGCTCCAGCTCTCCATTGCGAGGA  
GAGAGTGC GGCCGACAGTGATGGCTGGGACTCGGCCCCCTCAGATCTTCGAACCATCCAGACTTTTTGTTAAGAAA  
GCAAAGTCATCCAAGAGAAGGGCAGCTCAAGCAGGTCCCACCCAGCCAGGACCCCCAAGGTCCACTTTCTCTCGT  
CTGCAGGCCCCCGACAGTGCTACCTTGCTTGAGAAGATGAAGCTCAAGGACTCTCTCTTTGATCTGGATGGGCCC  
AAAGTGGCATCTCCTTTGTCCCCCACATCCCTGACACATACCTCCCGGCCCCCTGCTGCTCTTACCCCCGTGCC  
CTTTCCCAGGGGGACCTCTCCCATCCTCCTCGAAAGAAGGACCGAAAGAACCAGAAAGTTGGGGCCAGGAGCTGGG  
GCTGGCTTTGGGGTGCTTCGGAGGCCTCGGCCAACTCCTGGGGATGGGGAAAAGAGATCTCGAATCAAGAAGAGC  
AAGAAGCGGAAGTTAAAAAAGGCAGAACGGGGGGATAGACTCCCACCTCCTGGGCCTCCCCAGGCACCCCCAGTG  
ATACAGACTCTGAAGAGGAGGAGGAAGAGGAGGAAGAGGAAGAAGAAGAGATGGCAACAGTGGTAGGGGGTG  
AAGCCCCAGTCCCTGTGCTGCCAACACCCCCCTGAGGCTCCTAGGCCCCCTGCCACAGTGACCCCTGAAGGAGTCC  
CTCCTGCTGACAGTGAAAGCAAGGAGGTGGGCAGCACTGAAACAAGCCAAGATGGAGATGCCAGCTCCAGTGAAG  
GCGAGATGCGGGTCATGGACGAGGACATCATGGTAGAATCAGGTGATGACTCATGGGATCTGATCACATGTTACT  
GTCGAAAGCCCTTTGCAGGGCGGCCCATGATTGAGTGCAGCCTGTGTGGGACGTGGATCCACCTCTCCTGTGCTA  
AGATTAAGAAGACCAACGTCCCCGACTTCTTTTATTGCCAGAAATGCAAGGAACTGAGGCCAGATGCCCCGCGGT  
TAGGGGGGCCCCCAAATCTGGAGAGCCCTGATGGCACCAACTTTAGCCTGGAACCTCCAAATGACAACATGATT  
TGGGAACTGAGCCTCAGGGTCTCAGCCTATCCCCTGGAGCTTGATACTGTCTGCACTTCAAGGCAGGAATTCT  
CAAGGGAGACTTGTTTGAAAATGAGTGTCTCACTTTCCACCCCTATCCTTCTCCCCACTCTGTGGACTTGAAAT  
TGAATCCATTACGGTTGGGGATGGGAGGCTGTCTGTGTCCCGACACATAATCTCTGTCTCTTGGACCTGCCACCA  
TCACCTTTCTGGGTCAGGATTGGAATTGGGATGGAATGGGACAGTTGTCTATAAACTCTAGTGTAATATTAGCA  
CTCCCCCTCCCTCATCTTTTCTTCTATTTCACTCCCCATTTATTTTCTTCTACACCGGTTGTATTTTTAATTTTG  
ACTTCCCCTATTGGGCATGGCAGCTCAAAGGTGGAGTACTAGAGCCTGGCCAAGTGAGGAAGGAAAGCAGAAAGG  
TGACGATTCTCACTCACCTCTTTTGTTTTTAATAATATCGGCCGCTGTTTGTACAGACAGCCTGCGTGTGTAA  
TAAAGCAGGGTGGGCTCTTTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4673**

MLEAMAEPSPEDPPPTLKPETQPPEKRRRTIEDFNKFCSFVLAYAGYIPPSKEESDWPASGSSSPLRGESAADSD  
GWDSAPSDLRTIQTFFVKKAKSSKRRAAQAGPTQPGPPRSTFSRLQAPDSATLLEKMKLKDSLFDLDGPKVASPLS  
PTSLTHTSRPPAALTPVPLSQGDLSHPPRKKDRKNRKLGPAGAGFGVLRPRPTPGDGEKRSRIKSKKRKLKK  
AERGDRLPFPGPPQAPPVIQTLKRRRKRRKRKKKKRWQQW

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**FIGURE 4674**

GCTCCGCTGAATCCGCCCCGCGCGTCGCCGCCGTCGTCGCCGCCCCCGTCCCGGCCCCCTGGGTTCCCTCAGCC  
CAGCCCTGTCCAGCCCGGTTCCCGGGAGGATGAAGTTCGTGTACAAAGAAGAGCATCCGTTGAGAAGCGCCGCT  
CTGAGGGCGAGAAGATCCGAAAGAAATACCCGGACCGGGTGCCGGTGATAGTAGAAAAGGCTCCCAAAGCTCGGA  
TAGGAGACCTGGACAAAAAGAAATACCTGGTGCCTTCTGATCTCACAGTTGGTCAGTTCTACTTCTTGATCCGGA  
AGCGAATTCATCTCCGAGCTGAGGATGCCTTGTTTTCTTTGTCAACAATGTCATTCCACCCACCAGTGCCACAA  
TGGGTCAGCTGTACCAGGAACACCATGAAGAAGACTTCTTTCTCTACATTGCCTACAGTGACGAAAGTGTCTACG  
GTCTGTGAAGCTGCTGCCCCTGAGCTGGAGGGGGGTCTCATTCTACAAAGAGAGAGGTGGCCCCCTTTCTTGAC  
CTCCTCCTCCTTCAAGCTCAAACACCACCTCCCTTATTAGGACCGGCACTTCTTAATGTTTGTGGCTTTCTCTC  
CAGCCTCTCTTAGGAGGGGTAATGGTGGAGTTGGCATCTTGTAACCTCTCCTTTCTCCTTTCTTCCCCCTTTCTCTG  
CCGCCTTTCCCATCCTGCTGTAGACTTCTTGATTGTCAGTCTGTGTCACATCCAGTGATTGTTTTGGTTTCTGT  
TCCCTTTCTGACTGCCCAAGGGGCTCAGAACCCAGCAATCCCTTCCCTTTCACTACCTTCTTTTTTGGGGGTAGT  
TGGAAGGGACTGAAATTGTGGGGGGAAGGTAGGAGGCACATCAATAAAGAGGAAACCACCAAGCTG



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**FIGURE 4675**

CCGGCGGCGCCTCAGGTCGCGGGGCGCCTAGGCCTGGGTTGTCCTTTGCATCTGCACGTGTTGCGAGTCGTTTCC  
GCGATGCTGCCTCTGCTGCGCTGCGTGCCCCGTGTGCTGGGCTCCTCCGTGCGCGGCCTCCGCGCTGCCGCGCCC  
GCCTCGCCTTTCCGGCAGCTCCTGCAGCCGGCACCCCGGCTGTGCACCCGGCCCTTCGGGCTGCTCAGCGTGCGC  
GCAGGTTCCGAGCGGCGGCGGGCCTCCTGCGGCCTCGCGGACCCTGCGCCTGTGGCTGTGGCTGCGGCTCGCTG  
CACACCGACGGAGACAAAGCTTTTGTTGATTTCCTGAGTGATGAAATTAAGGAGGAAAGAAAAATTCAGAAGCAT  
AAAACCTCCCTAAGATGTCTGGAGGTTGGGAGCTGGAAGTGAATGGGACAGAAGCGAAATTAGTGCGGAAAGTT  
GCCGGGAAAAAATCACGGTCACTTTCAACATTAAACAACAGCATCCCAACACATTTGATGGTGAGGAGGAACCC  
TCGCAAGGGCAGAAGGTTGAAGAACAGGAGCCTGAACTGACATCAACTCCCAATTTTCGTGGTTGAAGTTATAAG  
AATGATGATGGCAAGAAGGCCCTTGTGTTGGACTGTCATTATCCAGAGGATGAGGTTGGACAAGAAGACGAGGCT  
GAGAGTGACATCTTCTCTATCAGGGAAGTTAGCTTTTCAGTCCACTGGCGAGTCTGAATGGAAGGATACTAATTAT  
ACACTCAACACAGATTCTTGGACTGGGCCTTATATGACCACCTAATGGATTTTCCTTGCCGACCGAGGGGTGGAC  
AACACTTTTGCAGATGAGCTGGTGGAGCTCAGCACAGCCCTGGAGCACCAGGAGTACATTACTTTTCTTGAAGAC  
CTCAAGAGTTTTGTCAAGAGCCAGTAGAGCAGACAGATGCTGAAAGCCATAGTTTCATGGCAGGCTTTGGCCAGT  
GAACAAATCCTACTCTGAAGCTAGACATGTGCTTTGAAATGATTATCATCCTAATATCATGGGGGAAAAAATACC  
AAATTTAAATTATATGTTTTGTGTTCTCATTTATTATCATTTTTTTTCTGTACAAATCTATTATTTCTAGATTTTT  
GTATAACATGATAGACATAAAATTGGTTTATCTCCTCC

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**FIGURE 4676**

MLPLLRCVPRVLGSSVAGLRAAAPASPFRQLLQPAPRLCTRPFGLLSVRAGSERRPGLLRPRGPCACGCGCGLH  
TDGDKAFVDFLSDEIKEERKIQKHKTLPKMSGGWELELNGTEAKLVRKVAGEKITVTFNINNSIPPTFDGEEEPS  
QGQKVEEQEPELTSTPNFVVEVIKNDGKKALVLDCHYPEDEVGQEDAESESDIFSIREVSFQSTGESEWKDTNYT  
LNTDSLWDWALYDHLMDFLADRGVDNTFADELVELSTALEHQEYITFLEDLKSFVKSQ

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**FIGURE 4677**

CCCGTTCCCTGGAGGCGCGCACAGACCCCTGGGAGGTGTACTTTCCGGGTGCAGACCGCGAATGGATCGCAGCGT  
ATTCTGGGAAGTGTGTTTTATCGACCGGCCCCACGTGGAGACAGATTTAGGCATCCAAGCGAAATGCGTGAGGC  
CAGCCCGACCTGCACTGAGGGAGGTAAGTCTTGAGGGAAAGTTCTGGATGCCTGGGTTTACCCAGATGGAGGTGT  
CCAATAGGCAATTAGATACACAAGTCTCAGGCTCTCCCCAGGTGCTAGATTTCCAGCAGCACCACCATTATGTTG  
ACTTCTCGTCCCGCCCCCTTGGGCTTCAGAAATAATGGTGATTGGCTTTCCCTTGGTGACGCCCCCTGCTTGGTGG  
GCTGGCCTCGCCTTCGCCCCCGACCTGGCACGAGCCTCTCGAGCTTCCGGGCCGTCTGCTCGGTGATTGGCCGA  
AACAGTGAGTGGACGGCCGCGGATTGGCTGTGCTCAGCGGCGGGCTGAGCAACTGGAGTGAGGGGAGCAGTTGGG  
CCAAGATGGCGGCCGCCGAGGGACCGGTGGGCGACGGCGAGCTGTGGCAGACCTGGCTTCCTAACCCAGTCGTGT  
TCTTGCGGCTCCGGGAGGGACTGAAAAACCAGAGTCCAACCGAAGCTGAGAAACCAGCTTCTTCGTCGTTGCCTT  
CGTCGCCGCCGCCGAGTTGCTGACGAGAAACGTGGTCTTTGGCCTCGGCGGAGAGCTTTTCTGTGGGACGGAG  
AAGACAGCTCCTTCTTAGTCGTTGCCTTCGGGGCCCCAGCGGCGGCGGCGAAGAGCCCGCCCTGTCCCAGTACC  
AGATGGAGTTTCGCTCTTGTTGCCAGGCTGGAGTGCAATGGCGCCATCTCGGCTCACCGCAACCTCCACCTTCC  
AGTTTCAAGCGATTCTTCTGCCTCAGCCCCCCCCGCGAGTAGCTGGGATTACAGAGATTGCTTTGCATAAATCCA  
CCCCTGTTTGAAATCTATCAAGTCTTGTTAAGCCCAACACAACATCATGTAGCACTTATAGGAATAAAAGGACTT  
ATGGTATTAGAATTACCTAAAAGATGGGGGAAGA

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**FIGURE 4678**

GAGCAGTTGGGCCAAGATGCGCGGCCGCCGAGGGACCGGTGGGCGACGGCGAGCTGTGGCAGACCTGGCTTCCTAA  
CCACGTCGTGTTCTTGCGGCTCCGGGAGGGACTGAAAAACCAGAGTCCAACCGAAGCTGAGAAAACCAGCTTCTTC  
GTCGTTGCCTTCGTCGCCGCCGCCGAGTTGCTGACGAGAAACGTGGTCTTTGGCCTCGGCGGAGAGCTTTTCCT  
GTGGGACGGAGAAGACAGCTCCTTCTTAGTCGTTGCGCTTCGGGGCCCCAGCGGCGGGCGGAAGAGCCCCGCCCT  
GTCCCAGTACCAGAGATTGCTTTGCATAAAATCCACCCCTGTTTGAAATCTATCAAGTCTTGTTAAGCCCAACACA  
ACATCATGTAGCACTTATAGGAATAAAAAGGACTTATGGTATTAGAATTACCTAAAAGATGGGGGAAGAATTCTGA  
ATTTGAAGGTGGAATAACAGTGAAATTGTAGTACCCTCCAGTTGCGGAGAGATTTTTCACCAGTTCCACCTC  
TCTGACTCTAAAGCATGCTGCATGGTATCCAAGTGAAATCCTGGATCCCCACGTAGTGCTGTTAACATCAGACAA  
CGTAATCAGAATTTACTCACTACGTGAGCCGCAGACACCCACTAACGTGATAATACTTTTCAGAAGCCGAAGAGGA  
AAGTCTAGTACTCAATAAAGGAAGGGCGTATACCGCATCTCTAGGAGAGACAGCAGTTGCATTTGACTTTGGGCC  
ATTGGCAGCAGTCCCAAAGACTCTATTTGGACAAAACGGCAAAGATGAAGTAGTGGCATACCCACTGTACATCTT  
ATATGAAAATGGAGAGACTTTCTGACATACATCAGTCTGTTACACAGCCCTGGAAATATTGGAAAGCTGTTGGG  
TCCATTGCCCATGCATCCTGCGGCTGAAGATAACTATGGTTATGATGCGTGTGCTGTACTCTGCTTACCCTGTGT  
CCCCAATATCTTAGTGATCGCTACTGAATCAGGAATGCTGTATCACTGTGTGCTGTAGTAAGGGGAAGAAGAAGA  
TGACCACACGTCAGAAAAGTCCTGGGATTCCAGGATTGACCTCATTCTCTCTGTATGTGTTTGAATGTGTTGA  
GTTGGAGCTTGCTTTGAAACTGGCATCTGGAGAGSATGACCCTTTTGATTCTGACTTTTCTGTCCAGTCAAACCT  
TCATAGAGATCCCAAGTGTCTTCAAGATATCACTGTACTCATGAAGCTGGTGTACATAGTGTGGGCTAACTTG  
GATTCATAAACTTCACAAATTTCTTGATCAGATGAAGAAGATAAGGATAGTTTACAGGAACCTCTACAGAACA  
GAAATGCTTTGTTGAACACATCCTTTGTACGAAGCCATTGCCCTGCAGGCAGCCAGCTCCAATTCGAGGATTTTG  
GATTGTACCTGACATTCTGGGACCCACGATGATCTGCATCACCAGTACCTATGAATGCCTCATATGGCCGTTATT  
AAGTACAGTCCATCCAGCGTCTCCTCCCCTGCTTTGTACTCGAGAAGATGTTGAAGTGGCAGAGTCTCCCCCTCCG  
TGTTCTGGCTGAAACCCAGATTCTTTGAAAAGCATATTAGAAGCATTTTGCAACGTAGTGTGCCAATCCAGC  
ATTTTTGAAAGCTTCTGAAAAGGACATAGCCCCCTCCTCCTGAAGAATGCCTTCAGCTCCTCAGCAGAGCCACCCA  
GGTGTTCAGAGAGCAGTACATTCTCAAACAGGACTTGGCAAAGGAGGAGATTTCAGCGGAGGGTCAAATTATTATG  
TGACCAAAAAAAGAAACAAGTAGAAGATCTCAGTTATTGTGCGAGAAGAGAGGAAAAGTCTGCGGGAAATGGCTGA  
GCGTTTAGCTGACAAATATGAGGAAGCTAAAGAAAAACAAGAGGATATCATGAACAGGATGAAAAAACTACTTCA  
CAGTTTTCACTCTGAGCTCCCAGTTCTCTCTGATAGTGAGCGAGACATGAAGAAAGAATTACAGCTGATACCTGA  
TCAACTTCGACATTTGGGCAATGCCATCAAACAGGTTACTATGAAAAAGGATTATCAACAGCAAAAAGATGGAGAA  
GGTGTGAGTCTTCCAAAACCCACCATTATTCTCAGTGCCTACCAGCGAAAGTGCATTTCAGTCCATCCTGAAAGA  
GGAGGGTGAACATATAAGGGAAATGGTGAAGCAAATCAATGATATCCGCAATCATGTAAACTTCTGACACCACCA  
GGAGCTGACTCACACCTGAACCTGAACACCATTGAAGGCTTAAACCCATATTGTAAAACAGGTAGATTATCTAAT  
TTATAAAAAGGTGTTTTGATG

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**FIGURE 4679**

MAAAEGPVGDELWQTLPNHVFLRLREGLKNQSPTEAEKPASSSLPSSPPPQLLTRNVVFGLGGEFLWDGED  
SSFLVVRLRGPSGGGEEPALSQYQRLLCINPPLFEIYQVLLSPTQHHVALIGIKGLMVLELPKRWGKNSEFEGGK  
STVNCSTTPVAERFFTSSTSLTLKHAAYPSEILDPHVLLTSDNVIRIYSLREPQTPTNVIILSEAEESLVLN  
KGRAYTASLGETAVAFDFGPLAAVPKTLFGQNGKDEVVAYPLYILYENGETFLTYISLLHSPGNIGKLLGPLPMH  
PAAEDNYGYDACAVLCCLPCVPNILVIATESGMLYHCVVLEGEEDDHTSEKSWDSRIDLIPSLYVFECVELELAL  
KLASGEDDPFDSDFSCPVKLHRDPKCPSRYHCTHEAGVHSVGLTWIHKLHKFLGSDEEDKDSLQELSTEQKCFVE  
HILCTKPLPCRQPAPIRGFWIVPDILGPTMICITSTYECLIWPLLSTVHPASPPLLCTREDVEVAESPLRVLAET  
PDSFEKHRSILQRSVANPAFLKASEKDIAPPPEECLQLLSRATQVFREQYILKQDLAKEEIQRRVKLLCDQKKK  
QLEDLSYCREERKSLREMAERLADKYEEAKEKQEDIMNRMKKLLHSFHSSELPVLSDSERDMKKELQLIPDQLRHL  
GNAIKQVTMKKDYQQQKMEKVLSPKPTIILSAYQRKCIQSILKEEGEHIREMVKQINDIRNHVNF

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**FIGURE 4680A**

GGTCAGCGGAGGGTTTGCTCCGTCTCTTGGTGAACCTGAACAGAGGCAGAGGCAAAAGCAAAACATTTCTGCGCC  
AGGAGATGAGGGGCGGTAGAGCXCTGGXAATGGAGATGTCCTTGACGCCTGGGCAGAGGCTGCAGCTGCAGGAC  
CCTGTGGCCACTGGAGATAAGTAATGGTGCCXATTTGAACACCTACTGGAAACGGGGCAGGAACAGTGAGTGACC  
CCAGGCGAGCACAGGCAGGTGCCAGGAGCCAGGATGCAAGGATGACGCCTCCGGAGGCCCTGGCCTCACTCCCAC  
CTGGGCGCTAGGAGCCATCCCGGGGCTCCAGCCAGGAGCCCTGCTGCCAGGGGCAXTGGGCAAAACCTTTCTTCC  
GACTCCAGAAGTTTCTCCGCCGAACACAGTTTCTGCTGTTXCTTCTCAXCGGCTGCCTACCTGATGACCGGCAG  
CCTGCTGCTGCTGCAGCGGGTCCGCGTXGGCTCTCCACAGGGCCCCCGGGCACCCGGCCCCCTGCAGACCTTGC  
CAGTGGCCCGCGTGGCGCTGGGCGTGGGCTTGCTGGACAGCAGAGCCCTGCACGACCCTCGAGTCAGCCAGAGC  
TGCTGCTGGGTGTGGACATGCTGCAGAGCCCCCTGACCCGGCXCCCCGGCCCCGGCCCCCGCTGGCTCCGGAGCCGC  
AACTCGGAGCTGCGTCAGTTGCGTCGCCGCTGGTTCCACCACTTCATGAGTGACTCCCAGGGACCGCCGCCCTG  
GGCCCCGAGGCTGCCAGGCCCCGCATCCACAGCCGAGGCACCTACATTGGATGCTTCAGTGACGATGGCCACGAG  
AGGACTCTGAAAGGAGCTGTGTTTTATGACTTGAGAAAGATGACTGTCTCCCACTGCCAGGATGCGTGTGCTGAG  
CGGTCTATGTCTACGCCGGCTTGAGAGCCGGGGCGGAGTGTTACTGCGGGAACCGGCTGCCAGCGGTGAGCGTG  
GGGCTGGAAGAGTGTAACCATGAGTGCAAAGGCGAGAAGGGCTCTGTGTGCGGGGCTGTGGACCGGCTCTCCGTG  
TACCGTGTGGACGAGCTGCAGCCGGGCTCCAGGAAGCGGCGGACCGCCACCTACCGCGGATGCTTCCGACTGCCA  
GAGAACATCACACATGCCCTTCCCCAGCTCCCTGATACAGGCCAATGTGACCGTGGGGACTTGCTCGGGCTTTTGT  
TCCCAGAAAGAGTTCCCCCTTGCCATTCTCAGGGGCTGGGAATGCTACTGTGCTTACCCTACCCCCGGTTCAAC  
CTGCGGGATGCCATGGACAGCTCAGTATGTGGCCAGGACCCTGAGGCACAGAGGCTGGCAGAATACTGTGAGGTC  
TACCAGACACCTGTGCAAGACACTCGTTGTACAGACAGGAGGTTCTGCCTAACAAATCCAAAGTGTTTGTGGCT  
TTGTCAAGCTTCCCAGGAGCCGGAACACATGGGCACGGCACCTCATTGAGCATGCCACTGGCTTCTATACAGGG  
AGCTACTACTTTGATGGAACCCCTCTACAACAAAGGGTTCAAGGGCGAAAAGGACCCTGGCGGAGCCGACGCACC  
ATCTGTGTCAAAACCCACGAGAGTGGCAGGAGGGAGATTGAGATGTTTGATTAGCCATCCTGCTAATCCGGAAC  
CCATACAGGTCCCTGGTGGCAGAATTCAACAGAAAATGTGCCGGGCACCTGGGATATGCAGCTGACCGCAACTGG  
AAGAGCAAAGAGTGGCCGGACTTTGTCAACAGCTACGCCTCGTGGTGGTCTCGCACGTCCTGGACTGGCTCAAG  
TACGGGAAGCGGCTGCTGGTGGTGCCTACGAGGAGCTGCGGCGCAGCCTGGTGCCACGTTACGGGAGATGGTG  
GCCTTCTCAACGTGTCTGTGAGCGAGGAGCGGCTGCTCTGCGTGGAGAACAACAAGGAGGGCAGCTTCCGGCGG  
CGCGGCCGGCGCTCCACGACCCTGAGCCCTTACCCCGGAGATGAAAGACTTGATCAATGGCTACATCCGGACG  
GTGGACCAAGCCCTGCGTGACCACAACCTGGACGGGGCTGCCAGGGAGTATGTGCCAGATGATAGGCCTGGCCC  
ACGCCGCCGCCCGCTGAGTGACGCAATCGCACACGGGGCTGCGCTCCCCACTCTGATGCTCAGGCCCGTGGC  
CTCACTGGGACGAACGGTGGGTGGGGGGCTCACCCCTGGTGTGCTGCCCTCCCGCACAAGGAGACCTGGACACAACAGA  
CACACATCACAAGGCGAACACAAATGGACACACATACCTGGCCACGAACCCACACCTCCTCAGACACTCAGACAC  
CACTCCAGGCTCATAGCCCCGTCTTGATGCAGAGAAGCCACCCACGTGGGGTGTGCCAGGCACCCCCAGATACAA  
ATGCAGCCACGCACAGACGTAACACACAGGTGCCAGGCCGTGTGCTCCTGGAGGCTGGCTGGCTGTCTCTCTCAC  
ACAGATACAGTGCCTCCCTGGGATCCGGGAGGCCCTGGGCTTCTGTGTGTAGCCCTGGCATAGACTTGCTCG  
TCAGGGTGTTCGACTCTGGGATGCTGGGCCGGGCAGACATTTATGCTCTGAGCAGCAAGGACCATTTGGGATGGAG  
GTGGGCACAAAGACTGCTGCTTCCAGGGTGTGCGGCCCTGGCCGTGTGTCTGACATCCCATAAATGTGTGTGTGG  
TGTGACTACGGGCACCACAACTCCGCAGCCTTGCCCTCTCTTTTCTCTGTGGCTGGGCTGGCTGCACCATGGGCA  
GGGTTGAGGACTGCCCCCACCCTCCCAAGCCAATGCAGACACTGACCTCAAGACCAGCCACACCAAGTCTGTG  
CACTGCCCACCACCCCTTCAACCCCTCCTACACCATGCTCCGGGGCTGGGGCTCCTTGCCCTGGCTTCTTCT  
CCAGCTATCCTCAGGGAAGCTGGAGATTCAAGTCATGCCCCAGAAGCAAGGTGTAAGCATGGGGCGTGGGGAAG  
AGGGCAGGAGCTGAAGTTCCAGGGGAGCCAGGACCCCTGGGGACCTGTACACTAGCAGGATGGGTCTTGGGAGT  
TGGCATGGGGAGATTGTAAGGGCTGTATCTCCGCGATTACTGGTACTGGTGTCTCCACCCATAGGGGGCCCTGTCT  
CTCTGGGGTCCCACACTGGGGTCATGAGAGCTAGTTAGTACTCAGCCTGACCCCTAGGTCTGGTCTGCCAGCCT  
GGGATGGGGTCAATGTATGCTACACATCTTGGGCTCACAAGTGAGGCTGTGGAGGCCAGGAGGTTCAAGTATGG  
AGGGTAGGAGTGCAACCCAGGAGCAACGCTCAAGGTGGCCGAGATGCAGGGAGGATTGTGGCGATCCGGTTGCAC  
ACTGGCCTCTGTGGAGGTGAGGGAGGTGGGAAGGTGGGTGGGCCTGAACTCAGGCAGCCCTTCAGTGGCTTCTTC  
AGGCCTAGGATAACCCCTGGCCAGGCCCCATGGTCCCTGCTCTGGGTGAGCTGTGAGGGAGACCTCCCTTCAGCCTG  
AGCCAAGCTGCATTGGGAGGAGAAGGCAGGGTGAGGGATCTGGGAGAGCAGGACGTTGAGATATCCTGACCCCT

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**FIGURE 4680B**

GCTTCCTAGCCTGATGATGGGGAACCCAGAGCCACCCGCTATGAGCACAGGCCGGGGGTGGAAGGCCCAGTAGAG  
CTGCCCTTCCCCAGATGGAAGCTTCCTCCAACCTTCAGTTTGGCCAGTGGGTGGGTTTGGGCATCTGTGCCCCTG  
GTGGCCTCCAAATCCTTCCTGGGATTCCCCCAAACCCACACTGATGCGAAGCTGTTCTTGACCCCTCCCATAGCAT  
CAACTCAGTTCAGCTCAAAGCTAGAAACACCAAGGTCTTTGAAAATGTTTATTGGCTCAGGATAGCTTCGGGCATC  
CAATCTGCGAAGGCCCTGATGGAGCTATTTCTTCCTAGTATCAGGAGCAATTGAGACCCCTCAGGAGTTTCCAC  
ACTGCTGTGGACGGGATAGCCAGGGCAGACCTGCATCCAGAGCAAGCCTAGATCCTTGAAAAGCAATGTCAGGCG  
TGGCAGTGGGGAAGCCATGGAGGCTGGGAAGGGCAAAGTGTGGAGAGAGGAGTGACCGGGACTGGAGCCAGGGTC  
TGGGGAGAGCAACAGCACCAGGCTTTTCCTGGTAGTTGGATTGGTACATTCACTGCTGCCAGGTACCCAGAGATG  
TCATCTCTCTCCAGGTAGAGCATCACCAGCTCCTGTGGCCTTGTAGATGACTCTGTACCTCAGTGAAGAGTGCAG  
GCAAGTAGAGTGATGGGGTCAGTGTCCATCCAGTTTACGCTGAGTCAGTCCATACAGCAAGACACCTGGCATTG  
GCAGGTACTCCTGGATGTTGATGAGCAAGGAAGAGCAACGGCCCTGTGAGCTGGCAGTGGTCTCACAGCCTTCA  
TCCCAGGTCTGCCTACGTGGGAGATCTCATCAGAAACAGGAACGGGGATCTGTCTGTGCTTGCAGGAAAGTCCAT  
TTGTTTTTCTCCAAGTTAGGTCTCATCTACAGCTCTTAGCTTCTCAGTAAAGAGGATACTCTCCAACCAGCCAA  
GGAATAAAAGCTGATCTGTATGTAGGGCAGAAGTGTGGCAAATGCATCAGGAACCGGTTAGAACAGAACAGAGAA  
ACCCTGACTGTCTACAGATTCCAACTTTAATAGCAAGCCTGTGGAGTTACACAAACCTGTGTTAAAACATGTAAT  
TTTTATGGATTTTCATCTCCCGTTGTGGATCAATTTGGAAAAACCAAATATGTAATTTAAAAAACTAAAAACACA  
TCCTGGTAGTCCCAGTGATGTGTAAATGAGAGAGAAGAATAGACAGGCTTCCAAACCCCTGGGAAGAAAGCTGCTT  
AATTATGTGAACATCTTATAATGAAGTCTCTTGCAGCTAAAATTAGATTTTGAGTGCATGAATCTGTGATAATGT  
TTGCATATCAGAATGCATTCTCCCCTTAAAAGTAGCAGTAGCCACTTGGTTCTTAGGGGGCCCCAAGAGGAGAGG  
AGAAGTGCTGAGGTTGATGTTACGACTGCAAGAATTCTTGGGACACAGGTTTGTCTTCTGCTGACTTGCTCGGAA  
ACCCATTGGAGGTATCTGAAATGTGATGACTCCAAAGGGGTTCAATTCCTATAGGGAGAAATTGATTCGCTCTGA  
CTTCCTATTTATCACCCTCAATATTGGGTGAGTTGGTCTGAACAAGGTGGGGATAAAGTAGAGTGGAATAATG  
TAGAGTCGTGAGACTGAAAGGCCAGGTTGTAGTCCCAGCTCTTATCTGCCATCTTGGACAAAGCTTTTCCCCTCT  
CCAGTCTCAGTTTCCCATCCATAAAATGGGGGAAGTGGTAGGTCTTGCTGATTGCATCCACATTCATTCCCTCCAT  
TTCTTTTCCCAGCAACCCCCCATTTCTGTTTGGGAATTCATATGATCTGCCAGAGCCTCTCCAGGGGTGGAATAC  
ATGTCCTGGACTAAGCCAATGACACCTTCCATCTTTCCAGCTATGGTGAAGTGGGTTAGGTATGATCTTGTGAGTT  
AAGACAATGAAGCCAGAGGGAATTTCAAGACTTATGGGAATGCTGGGTAGAAGCTGTTTTAATTCCCCTGTTGAA  
TGTGAAAAAGGTAGTAGTATTCTGGGTCTTTATGATGACCACCTTGGGCCTTGGGATCATGACCAGGAATCACG  
TGAAGCTGACACCACTGAAGGGAGAGTTGAGAGGCAGAAAGAGATCAAGTCCTTGGTGAAATTGTTTAAGTACAG  
GATCAAGCCTTGCTTGAGATTGGCCTTACCTCTGGACTTTTTTTGTTATATGAGCTAATAAATCTGTTTATTGT  
TT

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**FIGURE 4681**

MAKPFFRLQKFLRRTQFLLFFLTAAYLMTGSLLLLQVRVVALPQGPRAPGFLQTLFVAAVALGVGLLDSRALHDP  
RVSPPELLLGVDMLQSPLTRPRPGPRWLRSRNSLRQLRRRWFHFMDSQGPALGPEAARPAIHSRGTYIGCFS  
DDGHERTLKGAVFYDLRKMTVSHCQDACAERSYVYAGLEAGAECYCGNRLPAVSVGLEECNHECKGEKGSVCGAV  
DRLSVYRVDELQPGSRKRRTATYRGCFRLPENITHAFPSSLIQANVTVGTCSGFCSQKEFPLAILRGWECYCAYP  
TPRFNLRDAMDSSVCGQDPEAQRLAEYCEVYQTPVQDTRCTDRRFLPNKSKVFVALSSFPAGAGNTWARHLIEHAT  
GFYTGSIYFDGTLYNKGFKGEKDHWSRRTICVKTHESGRREIEMFDSAILLIRNPYRSLVAEFNRKCAGHLGYA  
ADRNWKSKEWPDFVNSYASWWSSHVLDWLKYGKRLLVHYEELRRSLVPTLREMVAFINVSVSEERLLCVENNKE  
GSFRRRGRRSHDPEPFTPEMKDLINGYIRTVDQALRDHNWTGLPREYVPR



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**FIGURE 4682**

CTTAGTGGTGTCTGGGGTCTAGTGGACAGAGAAGACTCTTGGCCAGGCAGATGGCTTCTCGGTGGCAGAACATGGG  
GACCTCCGTGCGCCGGAGATCTCTCCAGCACCAGGAGCAGCTGGAGGACAGCAAGGAGCTGCAGCCTGTGGTCAG  
CCATCAGGAGACCTCTGTAGGGGGCCCTGGGGTCCCTGTGCAGACAGTTCCAAAGGAGGCTGCCCCCTGAGAACCGT  
CAACCTCAACCTCCGCGCAGGGCCCTCCTGGAAACGCCTGGAAACCCCAGAGCCAGGTCAGCAGGGCCTCCAGGC  
TGCAGCTCGCTCAGCTAAGAGTGCTTTGGGTGCCGTGTCCCAGAGAATCCAGGAGTCTTGCCAAAGTGGCACCAA  
GTGGCTGGTGGAGACCCAGGTGAAGGCCAGGAGGCGGAAGAGAGGAGCACAGAAGGGCAGTGGATCCCCAACTCA  
CAGCCTGAGCCAGAAGAGCACCCGGCTGTCTGGAGCCGCCCCCTGCCCCACTCAGCCGCAGACCCCTGGGAGAAGGA  
GCATCACCGCCTCTCTGTCCGGATGGGCTCACATGCCACCCATTACGGCGATCAAGGCGGGAGGCTGCCTTCCG  
GAGCCCCTACTCCTCAACAGAGCCCCCTCTGCTCTCCAGCGAGTCTGACAGTGACCTAGAGCCTGTGGGGGCGGG  
AATTCAGCATCTCCAGAAGCTGTCCCAAGAGCTAGATGAAGCCATTATGGCGGAAGAGAGTGGTGACATCGTCTC  
TCTCATTTCATGACTGAGGAAGTGCCCTGCAGGAAACAAGCCCTGTCTGACCGCCAAGGCTTCATACTCAAGGATGT  
CTATGCTTCCCCGTGTGCTTCCCTGGAAAAAACCCCGGGAGTCGTACAGTACCCCTGGGCCACTGCTAACAAGCAC  
CTAACAAGGGGGCCAGAGCCCCCTGCTCCAGCCACATCTGGACCCATCAGTGACTGCCTGCCATAGCCTGAGAGT  
GTCTTGGGGAGACCTTGCAGAGGGGGAGAATTGTTCCCTTCTGCTTTCCCTAGGGGACTCTTGAGCTTAGAACTCA  
TCGTACACTTGACCTTGAGCCTTCTATTTGCCTCATCTATAACATGAAGTGCTAGCATCAGATATTTGAGAGCTC  
TTAGCTCTGTACCCGGGTGCCTGGTTTTTTGGGGAGTCATCCGCAGAGTCACTCACCCACTGTGTTTTCTGGTGCCA  
AGGCTCTTGAGGGCCCCACTCTCATCCCTCCTTTCCCTACCAGGGACTCGGAGGAAGGCATAGGAGATATTTCCA  
GGCTTACGACCCTGGGCTCACGGGTACCTATTTATATGCTCAGTGCAGAGCACTGTGGATGTGCCAGGAGGGGTA  
GCCCTGTTCAAGAGCAATTTCTGCCCTTTGTAAATTATTTAAGAAACCTGCTTTGTCATTTTATTAGAAAGAAAC  
CAGCATGTGACTTTCTAGATAACACTGCTTTCTCATAATAAAGACTATTTGCATTTG

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**FIGURE 4683**

MASRWQNMGTSVRRRSLQHQQLEDSEKELQPVVSHQETSVGALGSLCRQFQRRLEPLRTVNLNLRAGPSWKRLETP  
EPGQQGLQAAAARSAKSALGAVSQRIQESCQSGTKWLVTQVKARRRKRGAKGSGSPTHSLSQKSTRLSGAAPAH  
SAADPWEKEHHRLSVRMGSHAHPLRRSRREAAFRSPYSSTEPLCSPSESDSDLEPVGAGIQHLQKLSQELDEAIM  
AEESGDIVSLIHD

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**FIGURE 4684**

ATGGATGCCGCTCTGCTCCTGAACGTGGAAGGGGTCAAGAAAACCATTCTGCACGGGGGCACGGGCGAGCTCCCA  
AACTTCATCACCGGATCCCGAGTGATCTTTCATTTCCGCACCATGAAATGTGATGAGGAGCGGACAGTCATTGAC  
GACAGTCGGCAGGTGGGCCAGCCCATGCACATCATCATCGGAAACATGTTCAAGCTCGAGGTCTGGGAGATCCTG  
CTTACCTCCATGCGGGTGCACGAGGTGGCCGAGTTCTGGTGCGACACCATCCACACGGGGGTCTACCCCATCCTA  
TCCCGGAGCCTGAGGCAGATGGGCCAGGGCAAGGACCCACAGAGTGGCACGTGCACACGTGCGGGGTGGCCAAC  
ATGTTTCGCTACACACGCTGGGCTACGAGGACCTGGACGAGCTGCAGAAGGAGCCTCAGCCTCTGGTCTTTGTG  
ATCGAGCTGCTGCAGGTTGATGCCCCGAGTGATTACAGAGGGAGACCTGGAACCTGAGCAATCATGAGAAGATG  
AAGGCGGTGCCCCGTCCTCCACGGAGAGGGAAATCGGCTCTTCAAGCTGGGCCGCTACGAGGAGGCCTCTTCCAAG  
TACCAGGAGGCCATCATCTGCCTAAGGAACCTGCAGACCAAGGAGAAGCCATGGGAGGTGCAGTGGCTGAAGCTG  
GAGAAGATGATCAATACTCTGATCCTCAACTACTGCCAGTGCCTGCTGAAGAAGGAGGAGTACTATGAGGTGCTG  
GAGCACACCAGTGATATTCTCCGGCACCAACCAGGCATCGTGAAGGCCTACTACGTGCGTGCCCGGGCTCACGCA  
GAGGTGTGGAATGAGGCCGAGGCCAAGGCGGACCTCCAGAAAGTGCTGGAGCTGGAGCCGTCCTATGCAGAAGGCG  
GTGCGCAGGGAGCTGAGGCTGCTGGAGAACCGCATGGCGGAGAAGCAGGAGGAGGAGCGGCTGCGCTGCCGGAAC  
ATGCTGAGCCAGGGTGCCACGCAGCCTCCCGCAGAGCCACCCACAGAGCCACCCGCACAGTCATCCACAGAGCCA  
CCTGCAGAGCCACCCACAGCACCATCTGCAGAGCTGTCCGAGGGCCCCCTGCAGAGCCAGCCACAGAGCCACCC  
CCGTCCCCAGGGCACTCGCTGCAGCACTGAGCCCCCTGAGGCCACAGCCACCCAGGCAGGGAGCAAGTGGCCTG  
GTCACCTCTGGTTCGATTGACCAGGATCGTGGTGTCACTTTTTAAAATTTAAAATTAATTTTTGAAATCAAAGTC  
AGACACACCCATGGTAAAAAAAAAAAAAAAAACAATCCAAGGGTACAGAAGAGCTTATGAATAAAAGTAGTTTT  
CTCCTCTACCCCTCTCATTCCTTCCGTGCCATGGTTTTAATTGACCCTGTTTTTAATCTTCTGGTAGTTTTCTC  
TATTTCCAAGTAATCTGTTTAAATCAGTTTCTAGATTTTACCCCATGTCAATGACAAATGAGGATTTGATGCTCT  
GATCCTTTCTCATGCCTGATACCCCTCCCTGTCTCCCCATTTTGGATAGTTACATTTGGGGGTCATCTCGGTGAT  
TTTTGTAACTTTACGCAGGACACTTAGAGCTCTCTAGAATCCCACTGACTTTAGTGGGTCTTGATGTAGGGTGGG  
CAAGCCCCGACACTGGAGCTTAGCCTGAGAGGGTTCTTG

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**FIGURE 4685**

MDAALLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSRQVGQPMHIIIGNMFKLEVWEIL  
LTSMRVHEVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTEWHVHTCGLANMFAYHTLGYEDLDELQKEPQPLVFV  
IELLQVDAPSDYQRETWNLSNHEKMKAVPVLHGEGNRLFKLGRYEEASSKYQEAIICLRNLQTKKPWEVQWLKL  
EKMINTLILNYCQCLLKKEEYEVLEHTSDILRHHPGIVKAYYVRARAHAEVWNEAEAKADLQKVLELEPSMQKA  
VRRELRLLENRMAEKQEEERLRCRNMLSQGATQPPAEPPTTEPPAQSSTEPPAEPPTAPSAELSAGPPAEPATEPP  
PSPGHSLQH

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**FIGURE 4686**

GGCCAGCGCGGCCGGXGCCCCCTXCGXCCTXCCCACCCAGGGCGCTGAGCACGCACGXCCGCCGGCCTGGTGTTT  
CGGXCGGGGGCCCCGGGACCAGCCGCCGCCCTTCTCCAGGCGCTCCTACTCTCTGGGCATCTGCAGTCCGAGCGGAA  
GGGGCGGGGAAXCGTCGGCGACGCCGAGGGAGCAAAGCCCACGATCGGCTTCCCGGGGCAGCGGACGGCTGCCTTC  
CTCCCCGGCGCAAACGCACCCGCCAGGAGGGGGCGGGCTCGGCGGGTTCGGGGGGCGGGGCCGGGGTCCGAGCTCGG  
GCCCXGCCTCCGCCTCCGCCAGCTCCTGTGAGCTGCCGAGTGCTAGGCACCCGGGCTCTTCTGGGGGCTCCAGAA  
CTAAGCCACCCAGACACCATCATCCCGAAAACCCAGCCCTTCTCCCATGGCAGGCTACTTGGCCCCCCTAAAGGX  
TACGCCCCCTTCGCCCCACCTCCCTACCTGTACCCCTGGGTACCCGGAGCCGGCGCTACATCCTGGGXCCCCG  
GCAGGCGCCAGTGCCCGCCAGGTACCTGCCCCAGXCTCCCGGCTTCGCCCTCTTCCCCTCGCCTGGCCCCGTGG  
CCTTGGGGTCTGCTGCCCCCTTCTTGCCACTGCCAGGGGTGCCTTCTGGCCTCGAATTCTGGTGCAGATTGATC  
AGATTTTGTATTACACAGAAGGCTGAGCGAGTGGAATGGAAGTACAGGCTCCACCAGGCACCACCATTTGGCCAC  
GTGCTACAGACCTGGCATCCCTTCTCCCCAAGTTCTCCATCCAGGATGCCGATCGCCAGACAGTCTTGCAGTG  
GTGGGGCCCTGCTGGACCTGTGGCTGTGGCACAGACACCAACTTTGAGGTGAAGACXTCGGGATGAATCCCGCAG  
TGTGGGCCGATCAGCAAGCAGTGGGGGGGCCTGGTCCGAGAAGCCCTCACAGATGCAGATGACTTTGGCCTACA  
GTTCCCGCTGGACCXXXTGGAXTXGXXXTGXAGGGTGAAGGCTGTGCTGCTGGGAGCCACATTCTCATTGACTA  
CATGTTCTTTGAGAAGCGAGGAGGCGCTGGGGCCCTCTGCCATCACCAGTTAGAGGCCACCATGGTGTGAGGAGAC  
CATCACCTCGACCAGAACTCCAGATGGTCACCTGCCCTGGCCCCCTCCTCTGGGCAGCCCCCTTCTCTCCATGTACA  
CTGCAGGGGACAGXAAGGGGGGCCCCATCCCTACCCTACTCCCTGGCCGCCTGXCCCCCTGTGGTTCCCAAGGAGG  
GGTATGTATGAGAGCCGCTCTCCTGCTACCTXCCCACCACTGTCCCAGCAGTCCCTCGGCACACAGGCATATCAG  
CTTTCACACTTTCCCCATGCACTCTCTCCCACCCCTTCCAGGGCCTCTGCTCCAAAGGAGGCCTCTGGAACCCA  
GGACTCTGGGGTTTTTACAAGXAGGGCTGGGGTGTGGAAGGGCAAGCTGCACCAAAGACGGTGGATATAGCCACCG  
CCCCCGCGCGCTGCCTAGCATCTGCTTGGCCAATTAGTTAGCCTCAGACCATGGCACTTTGAGGGGGTCTCTA  
CCTCCCCATCAACAGCTGCAGGGGGACCCAGTGCCAACTTCTCTCCAXCTAGGGCCCTGCCTTCAGCTGGTG  
CTTGCTGCGATTCTGTGCCTTATGTAACTGCCCTTCTTCCCTTGCCCTXAGGAAAAAGGCTGCATCTTTATAT  
GTTACATTATATAAACTTTGTAACTTTTTGGACATTG

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**FIGURE 4687**

CTAGTTTCTAAGGATC**ATGT**CTGCGAGCCAGGATTCCCGATCCAGAGACAATGGCCCCGATGGGATGGAGCCCCGA  
AGGCGTCATCGAGAGTAACTGGAATGAGATTGTTGACAGCTTTGATGACATGAACCTCTCGGAGTCCCTTCTCCG  
TGGCATCTACGCCTATGGTTTTGAGAAGCCCTCTGCCATCCAGCAGCGAGCCATTCTACCTTGTATCAAGGGTTA  
TGATGTGATTGCTCAAGCCCAATCTGGGACTGGGAAAACGGCCACATTTGCCATATCGATTCTGCAGCAGATTGA  
ATTAGATCTAAAAGCCACCCAGGCCTTGGTCCTAGCACCCACTCGAGAATTGGCTCAGCAGATACAGAAGGTGGT  
CATGGCACTAGGAGACTACATGGGCGCCTCCTGTACGCCTGTATCGGGGGCACCAACGTGCGTGCTGAGGTGCA  
GAAACTGCAGATGGAAGCTCCCCACATCATCGTGGGTACCCCTGGCCGTGTGTTTGATATGCTTAACCGGAGATA  
CCTGTCCCCCAAATACATCAAGATGTTTGTACTGGATGAAGCTGACGAAATGTTAAGCCGTGGATTCAAGGACCA  
GATCTATGACATATTCCAAAAGCTCAACAGCAACACCCAGGTAGTTTTGCTGTGTCAGCCACAATGCCTTCTGATGT  
GCTTGAGGTGACCAAGAAGTTCATGAGGGACCCCATTCGGATTCTTGTCAAGAAGGAAGAGTTGACCCTGGAGGG  
TATCCGCCAGTTCTACATCAACGTGGAACGAGAGGAGTGGAAGCTGGACACACTATGTGACTTGTATGAAACCCT  
GACCATCACCCAGGCAGTCATCTTCATCAACACCCGGAGGAAGGTGGACTGGCTCACCGAGAAGATGCATGCTCG  
AGATTTCACTGTATCCGCCATGCATGGAGATATGGACCAAAAGGAACGAGACGTGATTATGAGGGAGTTTCGTTT  
TGGCTCTAGCAGAGTTTTGATTACCACTGACCTGCTGGCCAGAGGCATTGATGTGCAGCAGGTTTCTTTAGTCAT  
CAACTATGACCTTCCCACCAACAGGGAAAACATATCCACAGAATCGGTGAGGTGGACGGTTTGGCCGTAAAGG  
TGTGGCTATTAACATGGTGACAGAAGAAGACAAGAGGACTCTTCGAGACATTGAGACCTTCTACAACACCTCCAT  
TGAGGAAATGCCCCCTCAATGTTGCTGACCTCATCT**TGAG**GGGCTGTCTTGCCACCCAGCCCCAGCCAGGGCTCAAT  
CTCTGGGGGCTGAGGAGCAGCAGGAGGGGGGAGGGAAGGGAGCCAAGGGATGGACATCTTGTCATTTTTTTTTCTT  
TGAATAAATGTCACTTTTTGAGGCAAAAGAAGG

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**FIGURE 4688**

MSASQDSRSRDNGPDGMEPEGVIESN~~W~~NEIVDSFDDMNLSESLLRGIYAYGFEEKPSAIQQRAILPCIKGYDVIAQ  
AQSGTGKTATFAISILQQIELDLKATQALVLAPTRELAQQIQKVVMALGDYMGASCHACIGGTNVRAEVQKLQME  
APHIIVGTPGRVFDMLNRRYLSPKYIKMFVLDEADEMLSRGFKDQIYDIFQKLNSNTQVVLLSATMPSDVLEVTK  
KFMRDPIRILVKKEELTLEGIRQFYINVEREEWKLDLTLCDLYETLTITQAVIFINTRRKVDWLTEKM HARDFTVS  
AMHGDM~~D~~QK~~R~~DVIMREFRSGSSRVLITTDLLARGIDVQQVSLVINYDLPTNRENYIHRIGRGGRFGRKGVAINM  
VTEEDKRTL~~R~~DIETFYNTSIEEMPLNVADLI

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**FIGURE 4689**

GAGCTAGCTTTGCAATATGCGCGCCGAGGCGGACGGACCGCTTAAACGGCTGCTCGTGCCGATTCTTTTACCTGA  
GAAATGCTACGACCAACTTTTCGTTTCAGTGGGACTTGCTTCACGTCCCCTGCCTCAAGATTCTCCTCAGCAAAGG  
CCTGGGGCTGGGCATTGTGGCTGGCTCACTTCTAGTAAAGCTGCCCCAGGTGTTTAAAATCCGGGGAGCCAAGAG  
TGCTGAAGGGTTGAGTCTCCAGTCTGTAAATGCTGGAGCTAGTGGCATTGACTGGGACCATGGTCTACAGCATCAC  
TAACAACCTCCCATTCAGCTCTTGGGGTGAAGCCTTATTCCTGATGCTCCAGACGATCACCATCTGCTTCCTGGT  
CATGCACTACAGAGGACAGACTGTGAAAGGTGTGCTTTTCCTCGCTTGCTACGGCCTGGTCCCTGCTGGTGCTTCT  
CTCACCTCTGACGCCCTTGACTGTAGTCACCCTGCTCCAGGCCTCCAATGTGCCTGCTGTGGTGGTGGGAGGCT  
TCTCCAGGCAGCCACCAACTACCACAACGGGTACACAGGCCAGCTCTCAGCCATCACAGTCTTCCTGCTGTTTGG  
GGGCTCCCTGGCCCGAATCTTCACTTCCATTTCAGGAAACCGGAGATCCCCTGATGGCTGGGACCTTTGTGGTCTC  
CTCTCTCTGCAACGGCCTCATCGCCGCCAGCTGCTCTTCTACTGGAATGCAAAGCCTCCCCACAAGCAGAAAAA  
GGCGCAGTAGAGCCAGCTACTGGAGTCATTCCGTTTCCACTCATTACCCAACCTCAGGGTTCTCCCCATCTGAG  
CCAGCCTGCTGGTGTGACTTACTCATCCTCCATTCTCTGCACTTGACAGACTTTCTGAGCCAGGGTTTCTTTTA  
GTGGAAACAAATGGTTGATGGATCCAGATCCTTAGAAAAGGAGAGGATGGGGGTAGAGTCTCCCAAGCCAAAATT  
TTGACATTTGAGTGCTTTTCGTAAGCCCTGTACATGTACTATTAATTCAGTCATTACAGCCAAGCCTCCTCCTCTAG  
CAGCAATTTCCAGCTGTTTAACTATCCTGGGCAAATGTTTTACCCTGTCCTCCAGCCTCCCTGCTTCCCTTCT  
GGCCCTGGAAGACTGAGTCTGGACGGCAGAGTGGAGGGACTGGGAGGCTGTGGCTGCCTCCCTCCCTCAGCCCGG  
CTGGGACTGTCTCCCGACCCAGTGCTGGGGTGGGGGAAGGGGGACGGAGAATGACTCAGGCAGGGCCCCAGGG  
TGGGGTGAGGAGGTTCTGCTCTGGCAGGTCTAGGCGGAAGGGAGTGGAGATGGGGCTGGTTGCTGCTGCAGTGA  
GGGGAACAGATGGGACAATAAAGACTGGAGACTCAGTTGAATAATGCAAAAAAAAAAAAAA



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**FIGURE 4690**

MAAEADGPLKRLLPILLPEKCYDQLFVQWDLHVPCLKILLSKGLGLGIVAGSLLVKLPQVFKIRGAKSAEGLS  
LQSVMLELVALTGTMVYSITNNEPFSSWGEALFLMLQTITICFLVMHYRGQTVKGVAFLACYGLVLLVLLSPLTP  
LTVVTLLQASNPVAVVVGRLQAAATNYHNGYTGQLSAITVFLFGGSLARIFTSIQETGDPLMAGTFVSSLCNG  
LIAAQLLFYWNAKPPHKQKKAQ

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**FIGURE 4691**

TTAAGGAGGTGCAGTCTTATGGGAGGGACAGGGGCGGAGTCAGTCTTTAAAAGCTGTTCCCAGGTCTGGCCCGCC  
TGCCACAAACGCTGAGCCCAGGTGGGAGAGGTCTGGCCTATCCGCGCCTGGCAGCTGTCGGAACCTCCGGAGACCA  
CAAAGGGGTTTATGGTTTACCCCTCCACGGAAGGTCGGTCTGATCGCAGCTGCGGGTCGGGGAGAGGGACCGGG  
GGTCCCCCAGTCAGTAGGCCTCAGAACACCTCTTCAGTGCCGGGGCACCAGACAGCGGATTTTGCATTTCGACTCT  
CCCCAAAGTGTGCCGAACAGGTTGGAAGCAAAGGCTCCGGTTTAAAGCTCTGGGCTTGGGGATAAAATACACTTTT  
TAAGGACCCAAGTTCCTCGGCAACGACTCCAGACTGGGAAGACCTTTCCATTTTCAGGATCGACGCTTCACGTTG  
AGGGGAGGGCATTTCAGGACGCCCTCTTAAGGCTTCTCCAACCCATGCGCTACCAGGCTCCTCACAGGACCAGG  
CCTGGAGCCTGGAGCCTCCGGCTGCCACGGCTGCTGCCTCCTCATCTTCGGGACCCAGGAGCGGGAGGGCGCTG  
GGAGCCCCGCGGCCCCCGGGACGCTGCCCCCTGGAGAAGGTGAAGCGGCCGATGAACGCGTTCATGGTGTGGAGCT  
CCGCTCAGCGCCGCCAGATGGCGCAGCAGAACCCCAAGATGCACAACCTCCGAGATCTCCAAGCGCCTGGGCGCGC  
AGTGAAGCTGCTGGACGAGGACGAGAAGCGGCCCTTCGTGGAGGAGGCCAAGCGGCTCCGCGCCCGACACCTGC  
GCGACTACCCCGACTACAAGTACCGGCCTCGGCGCAAGGCCAAGAGCTCGGGCGCCGGACCTTCCCGCTGCGGAC  
AGGGAAGAGGCAACCTGGCCAGCGGCGGCCCGCTCTGGGGGCCGGGTACGCGACCACCCAACCGAGCAGAGGCT  
TTGGGTACAGACCCCCCAGCTACTCGACAGCCTACCTGCCTGGCAGCTATGGCTCTTCCCACTGCAAACCTGGAAG  
CCCCCTCACCGTGCTCCCTCCCTCAGAGTGACCCTAGGCTCCAGGGGGAAGTCTGCCCACCTATACCCACTACC  
TGCCCCCTGGCTCTCCCACTCCATAACAACCTCCCTTGCTGGTGCCCCCATGCCCCTAACCCACCTCTTAACCCT  
CATGGACGCAGACCTCACGGGACGGGCCTCATCCTCCTTTTTTAATCCAGCAGCATCCCCTACCCAGGCTGTCA  
ACCCTTTCTCCTGTTGGACTACAGTTCAGAGGCAGCCTGCAGTCCTCCCATGATAGCCAGGGAGAGCCGCACAAC  
ATACAATTATATTTTTGGTAGTATTAAACAGTTTTGTATTATTC

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**FIGURE 4692**

MALPGSSQDQAWSLEPPAATAAASSSSGPQEREGAGSPAAPGTLPLEKVKRPMNAFMVWSSAQRQMAQQONPKMH  
NSEISKRLGAQWKLLDEDEKRPFVEEAKRLRARHLRDYPDYKYRPRRKAKSSGAGPSRCGQGRGNLASGGPLWGP  
GYATTQPSRGFGYRPPSYSTAYLPGSYGSSHCKLEAPSPCSLPQSDPRLQGEILLPTYTHYLPPGSPTPYNPPLAG  
APMPLTHL

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**FIGURE 4693**

ACTTGTTCATGGCGACTGTCCAGCTTTGTGCCAGGAGCCTCGCAGGGGTTGATGGGATTGGGGTTTTCCCTCCCA  
TGTGCTCAAGACTGGCGCTAAAAGTTTTGAGCTTCTCAAAAGCTAGAGCCACCGTCCAGGGAGCAGGTAGCTGC  
TGGGCTCCGGGGACACTTTGCGTTTCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGGCA  
GCCAGACTGCCTTCCGGGTCACTGCCATGGAGGAGCCGCAGTCAGATCCTAGCGTCGAGCCCCCTCTGAGTCAGG  
AAACATTTTTCAGACCTATGGAACTACTTCTGAAAACAACGTTCTGTCCCCCTTGCCGTCCCAAGCAATGGATG  
ATTTGATGCTGTCCCCGGACGATATTGAACAATGGTTCACTGAAGACCCAGGTCCAGATGAAGCTCCCAGAATGC  
CAGAGGCTGCTCCCCGCGTGGCCCCCTGCACCAGCAGCTCCTACACGGCGGCCCTGCACCAGCCCCCTCCTGGC  
CCCTGTCACTTTCTGTCCCTTCCCAGAAAACCTACCAGGGCAGCTACGGTTTTCCGTCTGGGCTTCTTGCAATTCTG  
GGACAGCCAAGTCTGTGACTTGCACGTACTCCCCTGCCCTCAACAAGATGTTTTGCCAACTGGCCAAGACCTGCC  
CTGTGCAGCTGTGGGTTGATTCCACACCCCCGCGCCGACCCGCGTCCGCGCCATGGCCATCTACAAGCAGTCAC  
AGCACATGACGGAGGTTGTGAGGCGCTGCCCCCACCATGAGCGCTGCTCAGATAGCGATGGTCTGGCCCCCTCCTC  
AGCATCTTATCCGAGTGGAAGGAAATTTGCGTGTGGAGTATTTGGATGACAGAAACACTTTTCGACATAGTGTGG  
TGGTGGCCTATGAGCCGCTGAGGTTGGCTCTGACTGTACCACCATCCACTACAACCTACATGTGTAACAGTTCCT  
GCATGGGCGGCATGAACCGGAGGCCCCATCCTCACCATCATCACACTGGAAGACTCCAGTGGTAATCTACTGGGAC  
GGAACAGCTTTGAGGTGCGTGTGTTGTGCTGTCTGGGAGAGACCGGCGCACAGAGGAAGAGAATCTCCGCAAGA  
AAGGGGAGCCTCACCACGAGCTGCCCCAGGGAGCACTAAGCGAGCACTGCCCAACAACACCAGCTCCTCTCCCC  
AGCCAAAGAAGAAACCACTGGATGGAGAATATTTACCCTTCAGATCCGTGGGCGTGAGCGCTTCGAGATGTTCC  
GAGAGCTGAATGAGGCCTTGGAACCTCAAGGATGCCAGGCTGGGAAGGAGCCAGGGGGAGCAGGGCTCACTCCA  
GCCACCTGAAGTCCAAAAAGGGTCAGTCTACCTCCCGCCATAAAAACTCATGTTCAAGACAGAAGGGCTGACT  
CAGACTGACATTCTCCACTTCTTGTTCCTCCACTGACAGCCTCCCACCCCCATCTCTCCCTCCCTGCCATTTTGG  
GTTTTGGGTCTTTGAACCCTTGCTTGCAATAGGTGTGCGTCAGAAGCACCCAGGACTTCCATTTGCTTTGTCCCG  
GGGCTCCACTGAACAAGTTGGCCTGCACTGGTGTGTTTGTGTTGGGGAGGAGGATGGGGAGTAGGACATAACCAGCT  
TAGATTTTAAGGTTTTTACTGTGAGGGATGTTTGGGAGATGTAAGAAATGTTCTTGAGTTAAGGGTTAGTTTAC  
AATCAGCCACATTCTAGGTAGGGGCCACTTCACCGTACTAACCAGGGAAGCTGTCCCTCACTGTTGAATTTTCT  
CTAACTTCAAGGCCCATATCTGTGAAATGCTGGCATTGTCACCTACCTCACAGAGTGCATTGTGAGGGTTAATGA  
AATAATGTACATCTGGCCTTGAAACCACCTTTTATTACATGGGGTCTAGAAGTTGACCCCTTGAGGGTGCTTGT  
TCCCTCTCCCTGTTGGTTCGGTGGGTTGGTAGTTTCTACAGTTGGGCAGCTGGTTAGGTAGAGGGAGTTGTCAAGT  
CTCTGCTGGCCAGCCAAACCCTGTCTGACAACCTCTGGTGAACCTTAGTACCTAAAAGGAAATCTCACCCCAT  
CCCACACCCTGGAGGATTTTCATCTCTTGTATATGATGATCTGGATCCACCAAGACTTGTTTTATGCTCAGGGTCA  
ATTTCTTTTTTCTTTTTTTTTTTTTTTTTTTTTCTTTTTCTTTGAGACTGGGTCTCGCTTTGTTGCCAGGCTGGAGT  
GGAGTGGCGTGATCTTGGCTTACTGCAGCCTTTGCCTCCCCGGCTCGAGCAGTCCTGCCTCAGCCTCCGGAGTAG  
CTGGGACCACAGGTTTCATGCCACCATGGCCAGCCAACTTTGTCATGTTTTGTAGAGATGGGGTCTCACAGTGTG  
CCCAGGCTGGTCTCAAACCTCCTGGGCTCAGGCGATCCACCTGTCTCAGCCTCCCAGAGTGTGGGATTACAATTG  
TGAGCCACCACGTCCAGCTGGAAGGGTCAACATCTTTTACATTCTGCAAGCACATCTGCATTTTACCCCCACCT  
TCCCTCCTTCTCCCTTTTTATATCCCATTTTTATATCGATCTCTTATTTTACAATAAACTTTGCTGCCA

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**FIGURE 4694**

AGTGCTTTCAAAAAGAATTGGCGTCCGCTGTTTCGCCTCTCCTCCCGGGAGTCTTCTGCCTACTCCCAGAAGAGGAG  
GGAAGCACAXGGXTXGGGTTTCTTTAGCTCTGCGTCGGATCCCTGAGAACTTCGXAXAGXCCATCCTGGCTGAGG  
CTAATCTCCGCTGTGCTTCCTCTGCAGTATGAAGACTTTGGAGACTCAACCGTTAGCTCCGGACTGCTGTCCTTC  
AGACCAGGACCCAGCTCCAGCCCATCCTTCTCCCCACGCTTCCCCGATGAATAAAAAATGCGGACTCTGAACTGAT  
GCCACCGCCTCCCGAAAAGGGGGGATCCGCCCCGGTTGTCCCCAGATCCTGTGGCTGGCTCAGCTGTGTCCCAGGA  
GCTACGGGAGGGGGACCCAGTTTCTCTCTCCACTCCCCTGGAAACAGAGTTTGGTTCCTTAGTGAGTTGAGTCC  
TCGAATCGAGGAGCAAGAACTTTCTGAAAATACAAGCCTTCTCTGCAGAAGAAGCAAAACGGGAGCCTTTCTGAAGA  
AGAAGCGAACGGGCCAGAGTTGGGGTCTGGAAGCCATGGAAGATACCTCTGGGGAACCCGCTGCAGAGGACGA  
GGGAGACACCGCTTGGAACACAGCTTCTCCCAGCTGCCTCGATTTCTCAGTGGTTCTTGGTCAGAGTTCAGCAC  
CCAACCTGAGAACTTCTTGAAAGGCTGTAAGTGGGCTCCTGACGGTTTCTGACATCTTGACCAATAGTGCTGATAA  
CATCTTGCGAATTTATAACCTGCCCCAGAGCTGTACCATGAGGGGGAGCAGGTGGAATATGCAGAAATGGTCCC  
TGTCCTTCGAATGGTGGAAGGTGATACCATCTATGATTACTGCTGGTATTCTCTGATGTCCTCAGCCCAGCCAGA  
CACCTCTACGTGGCCAGCAGCAGCCGGGAGAACCCGATTTCATATCTGGGACGCATTCCTGAGAGCTCCGGGC  
TTCCTTTTCGCGCTACAACCACCTGGATGAGCTGACGGCAGCCCATTCGCTCTGCTTCTCCCCGGATGGCTCCCA  
GCTCTTCTGTGGCTTCAACCGGACTGTGCGTGTTTTTTCCACGGCCCGCCTGGCCGAGACTGCGAGGTCCGAGC  
CACATTTGCAAAAAAGCAGGGCCAGAGCGGCATCATCTCTGCATAGCCTTCAGCCCAGCCCAGCCCCTCTATGC  
CTGTGGCTCCTACGGCCGCTCCCTGGGTCTGTATGCCTGGGATGATGGCTCCCTCTCGCCTTGCTGGGAGGGCA  
CCAAGGGGGCATCACCCACCTCTGCTTTTCATCCCGATGGCAACCGCTTCTTCTCAGGAGCCCGCAAGGATGCTGA  
GCTCCTGTGCTGGGATCTCCGGCAGTCTGGTTACCCACTGTGGTCCCTGGGTGAGAGGTGACCACCAATCAGCG  
CATCTACTTCGATCTGGACCCGACCGGGCAGTTCTTAGTGAGTGGCAGCACGAGCGGGGCTGTCTCTGTGTGGGA  
CACGGACGGGCCTGGCAATGATGGGAAGCCGGAGCCCGTGTGTAGTTTTCTGCCCCAGAAGGACTGCACCAATGG  
CGTGAGCCTGCACCCTAGCCTGCCTCTCCTGGCCACTGCCTCCGGTCAGCGTGTGTTTCTGAGCCACAGAGAG  
TGGGGACGAAGGAGAGGAGCTGGGCCTTCCCTTGCTCTCCACGCGCCACGTCCACCTTGAATGTCGGCTTCAGCT  
CTGGTGGTGTGGGGGGGCGCCAGACTCCAGCATCCCTGATGATCACCAGGGCGAGAAAGGGCAGGGAGGAACGGA  
GGGAGGTGTGGGTGAGCTGATATAAAAAGGTTTTTATGAT

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**FIGURE 4695**

ACTTGTTCATGGCGACTGTCCAGCTTTGTGCCAGGAGCCTCGCAGGGGTTGATGGGATTGGGGTTTTCCCCTCCCA  
TGTGCTCAAGACTGGCGCTAAAAGTTTTGAGCTTCTCAAAAGTCTAGAGCCACCGTCCAGGGAGCAGGTAGCTGC  
TGGGCTCCGGGGACACTTTGCGTTCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGGCA  
GCCAGACTGCCTTCCGGGTCACTGCCATGGAGGAGCCGCAGTCAGATCCTAGCGTCGAGCCCCCTCTGAGTCAGG  
AAACATTTTCAGACCTATGGAACACTACTTCCTGAAAACAACGTTCTGTCCCCCTTGCCGTCCCAAGCAATGGATG  
ATTTGATGCTGTCCCCGGACGATATTGAACAATGGTTCACTGAAGACCCAGGTCCAGATGAAGCTCCCAAGATGC  
CAGAGGCTGCTCCCCCGTGGCCCCCTGCACCAGCAGCTCCTACACCGGCGGCCCTGCACCAGCCCCCTCCTGGC  
CCCTGTTCATCTTCTGTCCCTTCCCAGAAAACCTACCAGGGCAGCTACGGTTTCCGTCTGGGCTTCTTGCAATTCTG  
GGACAGCCAAGTCTGTGACTTGCACGTACTCCCTGCCCTCAACAAGATGTTTTGCCAACTGGCCAAGACCTGCC  
CTGTGCAGCTGTGGGTTGATTCCACACCCCCGCCCCGCCACCCGCGTCCGCGCCATGGCCATCTACAAGCAGTCAC  
AGCACATGACGGAGGTTGTGAGGCGCTGCCCCACCATGAGCGCTGCTCAGATAGCGATGGTCTGGCCCCCTCCTC  
AGCATCTTATCCGAGTGGAAGGAAATTTGCGTGTGGAGTATTTGGATGACAGAAACACTTTTCGACATAGTGTGG  
TGGTGGCCTATGAGCCGCTGAGGTTGGCTCTGACTGTACCACCATCCACTACAACATACATGTGTAACAGTTTCT  
GCATGGGCGGCATGAACCGGAGGCCCATCCTCACCATCATCACACTGGAAGACTCCAGTGGTAATCTACTGGGAC  
GGAACAGCTTTGAGGTGCGTGTTTGTGCCTGTCTGGGAGAGACCGGCGCACAGAGGAAGAGAATCTCCGCAAGA  
AAGGGGAGCCTCACCACGAGCTGCCCCCAGGGAGCACTAAGCGAGCACTGCCCAACAACACCAGCTCCTCTCCCC  
AGCCAAAGAAGAAACCCTGGATGGAGAATATTTACCCCTTCCAGATCCGTGGGCGTGAGCGCTTCGAGATGTTCC  
GAGAGCTGAATGAGGCCCTTGGAACTCAAGGATGCCAGGCTGGGAAGGAGCCAGGGGGGAGCAGGGCTCACTCCA  
GCCACCTGAAGTCCAAAAAGGGTCAGTCTACCTCCCGCCATAAAAACTCATGTTCAAGACAGAAGGGCCTGACT  
CAGACTGACATTCTCCACTTCTTGTTCCTTCCACTGACAGCCTCCCACCCCCATCTCTCCCTCCCCTGCCATTTTGG  
GTTTTGGGTCTTTGAACCTTGCTTGCAATAGGTGTGCGTCAGAAGCACCCAGGACTTCCATTTGCTTTGTCCCG  
GGGCTCCACTGAACAAGTTGGCCTGCACTGGTGTTTTGTTGTGGGGAGGAGGATGGGGAGTAGGACATACCAGCT  
TAGATTTTAAGGTTTTTACTGTGAGGGATGTTTGGGAGATGTAAGAAATGTTCTTGCAGTTAAGGGTTAGTTTAC  
AATCAGCCACATTCTAGGTAGGGGCCCACTTACCCTACTAACCAGGGAAGCTGTCCCTCACTGTTGAATTTTCT  
CTAACTTCAAGGCCCATATCTGTGAAATGCTGGCATTTCACCTACCTCACAGAGTGCATTGTGAGGGTTAATGA  
AATAATGTACATCTGGCCTTGAAACCACCTTTTATTACATGGGGTCTAGAACTTGACCCCCCTTGAGGGTGCTTGT  
TCCCTCTCCCTGTTGGTCGGTGGGTGGTAGTTTTCTACAGTTGGGCAGCTGGTTAGGTAGAGGGAGTTGTCAAGT  
CTCTGCTGGCCAGCCAAACCCTGTCTGACAACCTCTTGGTGAACCTTAGTACCTAAAAGGAAATCTCACCCCAT  
CCCACACCCTGGAGGATTTCACTCTTGTATATGATGATCTGGATCCACCAAGACTTGTTTTATGCTCAGGGTCA  
ATTTCTTTTTTCTTTTTTTTTTTTTTTTTTCTTTTTCTTTGAGACTGGGTCTCGCTTTGTTGCCAGGCTGGAGT  
GGAGTGGCGTGATCTTGGCTTACTGCAGCCTTTGCCCTCCCCGGCTCGAGCAGTCCTGCCTCAGCCTCCGGAGTAG  
CTGGGACCACAGGTTTCATGCCACCATGGCCAGCCAACCTTTGCATGTTTTGTAGAGATGGGGTCTCACAGTGTTG  
CCCAGGCTGGTCTCAAACCTCTGGGCTCAGGCGATCCACCTGTCTCAGCCTCCCAGAGTGCTGGGATTACAATTG  
TGAGCCACCACGTCCAGCTGGAAGGGTCAACATCTTTTACATTCTGCAAGCACATCTGCATTTTACCCCCACCT  
TCCCCTCCTTCTCCCTTTTTATATCCCATTTTATATCGATCTCTTATTTTACAATAAACTTTGCTGCCA

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**FIGURE 4696**

GCCGCTGAGAAAGCGCAGAGAAGGCGGGCCCCGTCTGAGGTCTGGCAGTCAGAGACAGCCGGGCGCCACGGCCC  
GAGCGCCACGGCAGCACCATGCCCCGCACTCCTGGAGCGCCCCAAGCTTTCCAACGCCATGGCCAGGGCGCTGCA  
CCGGCACATTATGATGGAGCGGGAGCGCAAGCGGCAGGAGGAAGAAGAGGTGGATAAGATGATGGAACAGAAGAT  
GAAGGAAGAACAGGAGAGAAGGAAGAAAAAGGAGATGGAAGAGAGAATGTCATTAGAGGAGACCAAGGAACAAAT  
TCTGAAGTTGGAGGAGAAGCTTTTGGCTCTACAGGAAGAGAAGCACCAGCTTTTCCTGCAGCTCAAGAAAGTTTT  
ACATGAGGAAGAAAAACGGAGGCGAAAGGAACAGAGTGACCTGACCACCCTAACATCAGCTGCATACCAGCAGAG  
CCTGACTGTTTACACAGGAACCTCATCTCCTCAGCATGCAGGGGAGCCCTGGAGGACACAATCGCCCAGGCACCCT  
CATGGCAGCTGACAGAGCCAAACAAATGTTTGGACCCCAAGTGCTTACGACCCGGCACTACGTGGGCTCAGCAGC  
TGCTTTTGCAGGGACACCAGAGCATGGACAATTCCAAGGCAGTCCTGGTGGTGCCTATGGGACTGCTCAGCCCCC  
ACCTCACTATGGGCCCCACACAGCCAGCTTATAGTCCTAGTCAGCAGCTCAGAGCTCCTTCGGCATTCCCTGCAGT  
GCAGTACCTATCTCAGCCACAGCCACAGCCCTATGCTGTGCATGGCCACTTTCAGCCCACTCAGACAGGTTTCCT  
CCAGCCTGGTGGTGGCTGTCTTGCAAAAGCAGATGGAACATGCTAACCCAGCAGACTGGCTTCTCCGACTCATC  
CTCTCTGCGCCCCATGCACCCCCAGGCTCTGCATCCAGCCCCTGGACTCCTTGCTTCCCCCAGCTCCCTGTGCA  
GATGCAGCCAGCAGGAAAGTCGGGCTTTGCAGCTACCAGCCAACCTGGCCCTCGGCTCCCCCTTCATCCAACACAG  
CCAGAACCCGCGATTCTACCACAAGTGACCATCAGATTATATCTTCAACACCACACCCCCACCCCCATCGTGGGT  
GAGGGTATCCCCTGTGTGTCCAGGCCAATAAAATCTACCTGCCA





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**FIGURE 4698**

MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTSKTGKHGHAKVHLVGIDIFTGKKYEDICPS  
THNMDVPNIKRND FQLIGIQDGYLSLLQDSGEVREDLRLPEGDLGKEIEQKYDCGEEILITVLSAMTEEA A VAIK  
AMAK

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**FIGURE 4699**

GGCCGGGAGAGTAGCAGTGCCTTGGACCCCAGCTCTCCTCCCCCTTTCTCTCTAAGGATGGCCCAGAAGGAGAAC  
TCCTACCCCTGGCCCTACGGCCGACAGACGGCTCCATCTGGCCTGAGCACCCCTGCCCCAGCGAGTCCTCCGGAAA  
GAGCCTGTCACCCCATCTGCACTTGTCTCATGAGCCGCTCCAATGTCCAGCCCACAGCTGCCCCCTGGCCAGAAG  
GTGATGGAGAATAGCAGTGGGACACCCGACATCTTAACGCGGCACTTCACAATTGATGACTTTGAGATTGGGCGT  
CCTCTGGGCAAAGGCAAGTTTGGAAACGTGTACTTGGCTCGGGAGAAGAAAAGCCATTTTCATCGTGGGCGCTCAAG  
GTCTCTTCAAGTCCCAGATAGAGAAGGAGGGCGTGGAGCATCAGCTGCGCAGAGAGATCGAAAATCCAGGCCCCAC  
CTGCACCATCCCAACATCCTGCGTCTCTACAACATTTTTATGACCGGAGGAGGATCTACTTGATTCTAGAGTAT  
GCCCCCGCGGGGAGCTCTACAAGGAGCTGCAGAAGAGCTGCACATTTGACGAGCAGCGAACAGCCACGATCATG  
GAGGAGTTGGCAGATGCTCTAATGTACTGCCATGGGAAGAAGGTGATTACAGAGACATAAAGCCAGAAAATCTG  
CTCTTAGGGCTCAAGGGAGAGCTGAAGATTGCTGACTTCGGCTGGTCTGTGCATGCGCCCTCCCTGAGGAGGAAG  
ACAATGTGTGGCACCCCTGGACTACCTGCCCCCAGAGATGATTGAGGGGCGCATGCACAATGAGAAGGTGGATCTG  
TGGTGCATTGGAGTGCTTTGCTATGAGCTGCTGGTGGGGAACCCACCCCTTTGAGAGTGCATCACACAACGAGACC  
TATCGCCGCATCGTCAAGGTGGACCTAAAGTTCCCCGCTTCTGTGCCACGGGAGCCCAGGACCTCATCTCCAAA  
CTGCTCAGGCATAACCCCTCGGAACGGCTGCCCCTGGCCCAGGTCTCAGCCCACCCCTGGGTCCGGGCCAACTCT  
CGGAGGGTGCTGCCTCCCTCTGCCCTTCAATCTGTGCGCTGATGGTCCCTGTTCATTCACTCGGGTGCCTGTGTTT  
GTATGTCTGTGTATGTATAGGGGAAAGAAGGGATCCCTAACTGTTCCCTTATCTGTTTTCTACCTCCTCCTTTGT  
TTAATAAAGGCTGAAGCTTTTTGT

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**FIGURE 4700**

MAQKENSYPWPYGRQTAPSGLSTLFQRVLRKEPVTPSALVLMRSRNVQPTAAPGQKVMENSSGTPDILTRHFTID  
DFEIGRPLGKGKFGNVYLAREKKSHFIVALKVLFKSQIEKEGVEHQLRREIEIQAHLHHPNILRLYNFYDRRI  
YLILEYAPRGELYKELQKSCTFDEQRTATIMEELADALMYCHGKKVIHRDIKPENLLLGLKGELKIADFGWSVHA  
PSLRRKTMCGTLDYLPPEMIEGRMHNEKVDLWCIGVLCYELLVGNPPFESASHNETYRRIVKVDLKFPASVPTGA  
QDLISKLLRHNP SERLPLAQVSAHPWVRANSRRVLPPSALQSV

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**FIGURE 4701**

AGATGGGAAGTACAGGCTCCACCAGGCACCACCATTGGCCACGTGCTACAGACCTGGCATCCCTTCCTCCCCAAGT  
TCTCCATCCAGGATGCCGATCGCCAGACAGTCTTGCGAGTGGTGGGGCCCTGCTGGACCTGTGGCTGTGGCACAG  
ACACCAACTTTGAGGTGAAGACTCGGGATGAATCCCGCAGTGTGGGCCGCATCAGCAAGCAGTGGGGGGGCCTGG  
TCCGAGAAGCCCTCACAGATGCAGATGACTTTGGCCTACAGTTCCCGCTGGACCTGGATGTGAGGGTGAAGGCTG  
TGCTGCTGGGAGCCACATTCTCATTGACTACATGTTCTTTGAGAAGCGAGGAGGCGCTGGGCCCCCTGTCCGTCA  
CCAGTTAGAGGCCACCATGGTGTGAGGAGACCATCACCTCGACCAGAACTCCAGATGGTCACCTGCCCTGGCCCC  
TCCTCTGGGCAGCCCCCTTTCTCCATGTACACTGCAGGGGACAGAAGGGGGGCCCCATCCCTACCTACTCCCTG  
GCCGCTGCCCTGTGGTTCCCAAGGAGGGGTATGTATGAGAGCCGCTCTCCTGCTACCTCCCACCACTGTCCCA  
GCAGTCCCTCGGCACACAGGCATATCAGCTTTCACACTTTCCTCCATGCACTCTCTCCCACCCCTTCCAGGGCCT  
CTGCTCCAAAGGAGGCCTCTGGAACCCAGGACTCTGGGGTTTTACAAGAGGGCTGGGGTGTGGAAGGGCAAGCTG  
CACCAAAGACGGTGGATATAGCCACCGCCCCCGCCGCTGCCTAGCATCTGCTTGGCCAATTAGTTCAGCCTCA  
GACCATGGCACTTTGAGGGGGTCTCTACCTCCCCATCAACAGCTGCAGGGGGACCCAGTGCCAACCTCCTCTCC  
CACTAGGGCCCTGCCTTCAGCTGGTGTCTGCTGCGATTCTGTGCCTTATGTAAGTGCCTTCCTTCCCTTGCCC  
TAGGAAAAAGGCTGCATCTTTATATGTTACATTCATATAAACTTTGTAACTTTTTGG

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**FIGURE 4702**

MEVQAPP GTTIGHVLQTWHPFLPKFSIQDADRQTVLRVVGPCWTCGCGTDINFEVKTRDESRSVGRISKQWGGLV  
REALTDADDFGLQFPLDLLDVRVKAVLLGATFLIDYMF FEKRGGAGPSAVTS

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**FIGURE 4703**

GCTCCGCTGAATCCGCCCCGCGCGTCGCCGCCGTGTCGCCGCCCGTCCCGGCCCCCTGGGTTCCCTCAGCC  
CAGCCCTGTCCAGCCCGGTTCCTCGGGAGGATGAAGTTCGTGTACAAAGAAGAGCATCCGTTGAGAAGCGCCGCT  
CTGAGGGCGAGAAGATCCGAAAGAAATACCCGGACCGGGTGCCGGTGATAGTAGAAAAGGCTCCCAAAGCTCGGA  
TAGGAGACCTGGACAAAAAGAAATACCTGGTGCCTTCTGATCTCACAGTTGGTCAGTTCTACTTCTTGATCCGGA  
AGCGAATTCATCTCCGAGCTGAGGATGCCTTGTTTTCTTTGTCAACAATGTCATTCCACCCACCAGTGCCACAA  
TGGGTCAGCTGTACCAGGAACACCATGAAGAAGACTTCTTTCTCTACATTGCCTACAGTGACGAAAAGTGTCTACG  
GTCTGTGAAGCTGCTGCCCCTGAGCTGGAGGGGGGTCTCATTCTACAAAGAGAGAGGTGGCCCCCTTTCTTGAC  
CTCCTCCTCCTTCAAGCTCAAACACCACCTCCCTTATTGAGGACCGGCACTTCTTAATGTTTGTGGCTTTCTCTC  
CAGCCTCTCTTAGGAGGGGTAATGGTGGAGTTGGCATCTTGTAACCTCTCCTTTCTCCTTTCTTCCCCCTTTCTCTG  
CCCGCCTTTCCCATCCTGCTGTAGACTTCTTGATTGTCAGTCTGTGTACATCCAGTGATTGTTTTGGTTTCTGT  
TCCCTTTCTGACTGCCCAAGGGGCTCAGAACCCAGCAATCCCTTCCTTTCACTACCTTCTTTTTTGGGGGTAGT  
TGGAAGGGACTGAAATTGTGGGGGAAGGTAGGAGGCACATCAATAAAGAGGAAACCACCAAGCTG

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**FIGURE 4704**

GAGACCATGGCGGGTAGCAGCACTGGGGGCGGTGGGGTTGGGGAGACGAAGGTGATTTACCACCTGGATGAGGAA  
GAGACTCCCTACCTGGTGAAGATCCCTGTCCCCGCCGAGCGCATCACCTCGGCGATTTCAAGAGCGTCCTGCAG  
CGGCCCCGCGGGCGCCAAGTACTTTTTCAAGTCTATGGATCAGGATTTGGGGTGGTGAAGGAAGAAATTTAGAT  
GACAACGCCCCGCTCCCTGCTTCAACGGAAGGGTGGTATCCTGGCTGGTGTCTCAGATAATCCCCAACCCGAG  
ATGGCCCCCTCCAGTCCATGAGCCTCGGGCAGAAGTGGCGCCTCCAGCCCCACCTTTACCTCCTTTGCCACCCGAG  
AGGACCAGCGGCATTGGGGACTCAAGGCCTCCATCCTTCCACCCTAATGTGTCCAGCAGCCATGAGAATCTGGAG  
CCTGAGACAGAAACCGAGTCAGTAGTGTCACTGAGGCGGGAGCGGCCTCGCAGGAGAGACAGCAGTGAGCATGGC  
GCTGGGGGCCACAGGACTGGTGGCCCCCTCAAGGCTGGAGCGCCACCTGGCCGGATACGAGAGCTCCTCTACCCTC  
ATGACCAGCGAGCTGGAGAGTACCAGCCTGGGGGACTCGGACGAGGAGGACACCATGAGCAGGTTTACAGCAGCTCC  
ACGGAGCAGAGCAGTGCCTCCCGCCTCCTTAAGCGCCACCGGCGGCGAAGGAAGCAGAGGCCACCCCGCCTGGAG  
AGGACGTCATCCTTACGACGCTCACAGATTCCACAATGTCTCTCAATATCATCACAGTCACGCTAAACATGGAG  
AAGTACAACCTTCTGGGTATCTCCATTGTTGGCCAGAGCAATGAGCGGGGAGACGGAGGCATCTACATTGGCTCC  
ATCATGAAGGGTGGGGCTGTGGCGGCCGACGGGCGCATTGAGCCAGGGGACATGCTTTTGAGGTGAATGACATG  
AACTTTGAGAACATGAGCAACGATGACGCTGTGCGGGTGTGAGGGACATTGTGCACAAGCCTGGCCCCATTGTG  
CTGACTGTGGCCAAGTGCTGGGATCCCTCTCCTCAGGCCTATTTCACTCTCCCCGAAATGAGCCCATCCAGCCA  
ATTGACCCTGCTGCCTGGGTGTCCCATTCGCGGCTCTGACTGGCACCTTCCCAGCCTATCCAGGTTTCTCTCTCC  
ATGAGCACCATTACATCTGGATCGTCTTTGCCTGATGGCTGTGAAGGCCGGGTCTCTCCGTCCATACGGACATG  
GCATCGGTGACCAAGGCCATGGCAGCTCCAGAGTCTGGACTGGAAGTCCGGGACCGCATGTGGCTCAAGATCACC  
ATCCCTAATGCCTTTCTGGGCTCGGATGTGGTTGACTGGCTCTACCATCACGTGGAGGGCTTTCTCTGAGCGGCGG  
GAGGCCCGCAAGTATGCCAGCGGGCTGCTCAAAGCAGGCCTGATCCGACACACCGTCAACAAGATCACCTTCTCT  
GAGCAGTGCTATTACGTCTTCGGAGACCTCAGTGGTGGCTGTGAGAGCTACCTAGTCAACCTGTCTCTCAATGAC  
AACGATGGCTCCAGTGGGGCTTCAGACCAGGATACCCTGGCTCCTCTGCCTGGGGCCACCCCTGGCCCCCTGCTG  
CCCCTTTCTCCTACCAATACCCTGCCCCACACCCTACAGCCCGCAGCCTCCACCCTACCATGAGCTTTTCATCT  
TACACCTATGGTGGGGGAGTCCAGCAGCCAGCATAGTGAGGGCAGCCGGAGCAGTGGGTGCACACGGAGTGAT  
GGGGGGGAGGGGCGACGGGGAGGCCCGAGGAGCGGGCCCCGAGTCCAAGTCCGGCAGTGGCAGTGAGTCTGAG  
CCCTCCAGCCGAGGGGGCAGCCTTCGGCGGGGTGGGGAAGCAAGTGGGACTAGCGATGGGGGGCCCTCCTCCATCC  
AGAGGCTCAACTGGGGGTGCCCTAATCTCCGAGCCCACCCAGGGCTCCATCCCTATGGACCGCCCCCTGGCATG  
GCCCTCCCCTACAACCCCATGATGGTGGTCATGATGCCCCACCTCCACCTCCAGTCCCTCCAGCAGTGCAGCCT  
CCGGGGGGCCCTCCAGTCAGAGACCTGGGCTCTGTGCCCCAGAACTGACAGCCAGCCGCCAAAGCTTCCACATG  
GCCATGGGCAATCCCAGCGAGTTCTTTGTGGATGTTATGTAGCCCACTGTGGGGCCAGGCTGGGCGGGGCGCTCC  
TGGTGTGTGACTGGGTGTCTGGCCGTATGTGCTTGTCTTACAGTGCCTGGGCTCAGCCTACCAGCTGCTGCC  
ATACAGGAGATTGTGGCCACTGTGACTCTCACCAGCAGTGCCTGGTTCCCTCCCCCTCCCTCAGGGGTAGACAAG  
GGACCTTTGATTATTTTTAGCTTTGTTTTTTTATAAGCCTTTTTGGGGGTAAATAGAGTTTCTTACATTTTG  
GGACTTTTTTAATAGGCATTTCCTCTTTT

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**FIGURE 4705**

MAGSSTGGGGVGETKVIYHLDEEETPYLVKIPVPAERITLGDFKSVLQRPAGAKYFFKSMDQDFGVVKEEISDDN  
ARLPCFNCRVVS WLVS SDNPQPEMAPPVHEPRAELAPPAPPLPLPPERTSGIGDSRPPSFHPNVSSSHENLEPE  
TETESVVS LRRERPRRRDSSEHGAGGHRTGGPSRLERHLAGYESSSTLMTSELESTSLGDSDEEDTMSRFSSTE  
QSSASRL LKRHHRRRRKQRPRLERTSSFSSVTDSTMSLNIITVTLNMEKYNFLGISIVGQSNERGDGGIYIGSIM  
KGGAVAADGRIE PGDMLLQVND MNFENMSNDDAVRVL RDIVHKPGPIVLT VAKCWDPS PQAYFTLPRNEPIQPID  
PAAWVSHSAALTGTFFPAYPGSSSMSTITSGSSLPDGCEGRGLSVHTDMASVTKAMAAPESGLEVRDRMWLKITIP  
NAFLGSDVVDWLYHHVEGFPERREARKYASGLLKAGLIRHTVNKITFSEQCYVVF GDLSGGCESYLVNLSLNDND  
GSSGASDQDTLAPLP GATPWPLLP TFSYQYPAPHYPSPQPPPYHELSSYTYGGGSASSQHSEGSRSSGSTRSDGG  
AGRTGRPEERAPESKSGSGSESEPSSRGGSLRRGGEASGTS DGGPPPSRGSTGGAPNLR AHPGLHPYGPPPGMAL  
PYNPMMVMMPPPPPPVPPAVQPPGAPPVRDLGSVPPELTASRQSFHMAMGNPSEFFVDVM



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**FIGURE 4706**

GGGCCAGCGCGGCCCGGGCCGCCCTCGCCTCCCACCCAGGGCGCTGAGCACGCACGCCGCCGGCCTGGCGGCGTT  
CGCGGGGGCCCGGACCAGCCGCCGCTTCTCCAGGCGCTCCTACTCTCTGGGCATCTGCAGTCCGAGCGGAAGGG  
GCGGGAACGTTCGGCGACGCCGAGGAGCAAAGCCCACGATCGGCTTCCCGGGGCAGCGGACGGCTGCCTTCCTCCC  
GGCGCAAACGCACCGCCCAGGAGGGGGCGGGCTCGGCGGGTCGGGGGGCGGGGCCGGGGTCCGAGCTCGGGCCCCG  
CCTCCGCCCTCCGCCAGCTCCTGTGAGCTGCCGAGTGCTAGGCACCCGGGCTCTTCTGGGGGCTCCAGAACTAAGC  
CACCCAGACACCATCATCTCGAAAACCCAGCCCTTCTCCCATGGCAGGCTACTTGCCCCCAAAGGCTACGCCC  
CTTCGCCCCACCTCCCTACCCTGTCAACCCCTGGGTACCCGGAGCCGGCGCTACATCCTGGGCCCCGGGCAGGCGC  
CAGTGCCCGCCAGGTACCTGCCCCAGCTCCCGGCTTCGCCCTCTTCCCTCGCCTGGCCCCGTTGGCCTTGGGGT  
CTGCTGCCCCCTTCTTGCCACTGCCAGGGGTGCCTTCTGGCCTCGAATTCCTGGTGCAGATTGATCAGATTTTGA  
TTCACCAGAAGGCTGAGCGAGTGGAACGTTCCTAGGCTGGGAGACCTGTAATCGGTATGAACTGCGCTCTGGGG  
CCGGGCAGCCCCCTGGGTACGGCGGCCGAGGAGAGCAACTGCTGCGCCCGTCTGTGCTGTGGCGCCCCGCCGGCCGC  
TGCGTGTCCGCCTGGCCGACCCCGGGGACCGTGAGGTGCTGCGTTTGCTCCGCCCGCTGCACTGTGGCTGCAGCT  
GCTGCCCCCTGTGGCCTCCAGGAGATGGAAGTACAGGCTCCACCAGGCACCACCATTGGCCACGTGCTACAGACCT  
GGCATCCCTTCCTCCCCAAGTTCTCCATCCAGGATGCCGATCGCCAGACAGTCTTGCGAGTGGTGGGGCCCTGCT  
GGACCTGTGGCTGTGGCACAGACACCAAC

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**FIGURE 4707**

AGTTGGAATCGAAGCCTCTTAAAATGGCAGATGACTTGGACTTCGAGACAGGAGATGCAGGGGCCTCAGCCACCT  
TCCCAATGCAGTGCTCAGCATTACGTAAGAATGGCTTTGTGGTGCTCAAAGGCCGGCCATGTAAGATCGTCGAGA  
TGTCTACTTCGAAGACTGGCAAGCACGGCCACGCCAAGGTCCATCTGGTTGGTATTGACATCTTTACTGGGAAGA  
AATATGAAGATATCTGCCCCGTCAACTCATAATATGGATGTCCCCAACATCAAAGGAATGACTTCCAGCTGATTG  
GCATCCAGGATGGGTACCTATCACTGCTCCAGGACAGCGGGGAGGTACGAGAGGACCTTCGTCTCCCTGAGGGAG  
ACCTTGGCAAGGAGATTGAGCAGAAGTACGACTGTGGAGAAGAGATCCTGATCACGGTGCTGTCTGCCATGACAG  
AGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAATAACTGGCTCCCAGGGTGGCGGTGGTGGCAGCAGTGATCC  
TCTGAACCTGCAG

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**FIGURE 4708**

GGCCCCCCCCCCCCCTAGAAATGCTCGAACCAGGACGGCTCCTGGAGTCTCTCGCGCCCTCGCAGAAGGACTACGG  
GCCCCGGCGACCCCGGGGGCGGGGCTTCCGGCGCGCTGCCTTGTGGGCACGGTAGTTCCGCCGGGTCTGGCTTCC  
GCCTGCCGAGCGGCCCCGGACCGCAGGCCGGACTACACTTCCCGTCGGCCCGCTGCTCTCCCGATGCCGCCTTG  
GCGCGAGACGTTGGCAAGCAGAGTGTCTCCAAGATGGCCGCTTGGGGAAGGAGGCGTCTTGGCCCGGGCAGCAGT  
GGCGGCAGCGCCCGAGAGAGGGTGAGCTTGTGCGCCACAGACTGCTACATTGTGCATGAGATCTACAATGGGGAG  
AATGCCCAAGACCAGTTTGAGTACGAGCTGGAGCAGGCCCTGGAAGCCAGTACAAGTACATTGTGATTGAGCCC  
ACTCGCATTGGCGACGAGACAGCCCGCTGGATCACCGTGGGCAACTGCCTGCACAAGACGGCCGTGCTGGCGGGC  
ACCGCCTGCCTCTTCACCCCGTTGGCGCTGCCCTTAGATTATTCCCACTACATTTCCCTGCCCGCTGGTGTGCTG  
AGCCTGGCCTGCTGCACCCCTCTATGGGATCTCCTGGCAGTTTGACCCTTGCTGCAAGTACCAAGTGGAGTACGAC  
GCCTATAAACTGTGCGCGCTGCCTCTGCACACACTCACCTCCTCCACCCCGGTGGTGTGCTGGTCCGGAAGGACGAC  
CTGCACAGAAAGAGACTGCACAACACGATAGCACTGGCCGCCCTGGTGTACTGTGTAAAGAAGATTTACGAACCTC  
TATGCCGTATGATTTTCAGTAGAACAGGGAGCGAAGCAAAACCACCCGGCCCAAGAGACAACAGAGTATTCAGA  
TCGCCCACTCTGTGAGGCAGCAGAGCCTGGGCAGGTGTTTGGCTTAGTATTTGTTATTTTAAAAAATAACAGA  
TCACGGGTGTACCCAGGGTTTTTCAGCTCATTACACTAAGATGTGGATTTCCATAACCCAAGAGGGGGGTCTGAG  
GCTGTGGAAGTCCGACTGGGCAGTGGAATGCTGATGGAGGCAGACGCTGCCGAGGGGGTGTGGACGTGCTTTGGG  
GGAGGTCTTTAAGTCTATTGTTTAACTGTACCATCCAGAGCCACCAGAAGCTATTGATCATTAAAATTATGAGA  
ATTTCAACTCC

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**FIGURE 4709**

MAAWGRRRLGPGSSGGSARERVSLSATDCYIVHEIYNGENAQDQFEYELEQALEAQYKYIVIEPTRIGDETARWI  
TVGNCLHKTAVLAGTACLF TPLALPLDYSHYISLPAGVLSLACCTLYGISWQFDPCCKYQVEYDAYKLSRLPLHT  
LTSSTPVVLVRKDDLHRKRLHNTIALAALVYCVKKIYELYAV

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**FIGURE 4710A**

AGGCCAAGTCCTGTATCTGCCATGTCTGTGGCGTCCACCTCAACAGGCTGCATTCTGCCTCTACTGTGTCTTCT  
TCGGCTGTTTCACAAAGAAGCATATTCACGAGCATGCGAAGGCGAAGCGGCACAACCTGGCCATTGATCTGATGT  
ACGGAGGCATCTACTGTTTTCTGTGCCAGGACTACATCTATGACAAAGACATGGAAATAATCGCCAAGGAGGAGC  
AGCGAAAAGCTTGAAAAATGCAAGGCGTTGGAGAGAAGTTTTCAACTTGGGAACCAACCAACGGGAGCTTGAAC  
TGCTGAAGCACAAACCCGAAAAGGAGAAAGATCACCTCGAACTGCACCATAGGTCTGCGTGGGCTGATCAACCTTG  
GGAACACATGCTTCATGAACTGCATCGTGCAGGCCCCTGACCCACACGCCACTTCTGCGGGACTTCTTCCTGTCTG  
ACAGGCACCGCTGTGAGATGCAGAGCCCCAGCTCCTGTCTGGTCTGTGAGATGTCTCTACTGTTTCAGGAGTTTT  
ACTCTGGACACCGGTCCCTTCACATCCCGTATAAGTTGCTGCACCTGGTGTGGACCCACGCGAGGCACCTAGCAG  
GCTACGAGCAGCAGGACGCCCACGAGTTCCCTCATCGCGGCCCTGGACGTGCTCCACCGACACTGCAAAGGTGATG  
ACAATGGGAAGAAGGCCAACAAACCCCAACCACTGCAACTGCATCATAGACCAGATCTTCACAGGCGGGTGCAGT  
CAGACGTACCTGCCAAGTCTGCCATGGAGTCTCCACCACCATCGACCCCTTCTGGGACATCAGCTTGGATCTCC  
CCGGCTCTTCCACCCATTCTGGCCCCCTGAGCCCAGGGAGCGAGGGCAACGTGGTAAACGGGGAAAGCCACGTGT  
CGGGAACCAACACGCTCACGGACTGCCTGCGACGATTACCCAGACCAGAGCACTTGGGCAGCAGCGCCAAGATCA  
AGTGCAGCGGTTGCCATAGCTACCAGGAGTCCACAAAGCAGCTCACTATGAAGAACTGCCCATCGTAGCCTGTT  
TTCATCTCAAACGATTTGAACACTCAGCCAAGCTGCGGCGGAAGATCACCACGTATGTGTCTTCCCCCTGGAGC  
TGGACATGACCCCTTTCATGGCCTCCAGCAAAGAGAGCAGGATGAATGGACAGTACCAGCAGCCACGGACAGTC  
TCAACAATGACAACAAGTATTCCTGTTTGTCTGTTGTTAACCATCAAGGGACCTTGGAGAGTGGCCACTACACCA  
GCTTTATCCGGCAGCACAAAGACCAGTGGTTCAAGTGTGACGATGCCATCATACCAAGGCCAGCATCAAGGACG  
TCCTGGACAGCGAAGGGTACTTGTCTTCTATCACAACAGTTCTTGGAAATACGAGTAGCCTTATCTGCAGCTGG  
TCAGAAAAACAAAGGCAATGCATTGGCAAGCCTCACAAGTGATCTCCTGGCCCCCCCCCTCCCCAAGTCTCC  
CGCCGCTCCCCGGCCTGGTGACACCACCTCCCATGCAGATGTGGCCCCCTCTGCACCTGGGACCCATCGGGTCCGG  
GATGGACCACACGGACGGGGAGGCTCCTGGAGCTGCTTTGAAGATGGATGAGATGAGGGGTGTGCTCTGGGTGGG  
AGGAGCAGCGTACACCCGTCACCAGAACATCTCTGTGTCTGACATGGGGGTGCAACGGGGGCTCACAGCACA  
GAGTGACCGCTGCCTGGCGTTCCCCAGCACTCGGTGTGGAAAGGCCCTACCTGCTGTAAGATTATGGGTCCATG  
AAAGCAGTAAGCTGGACACAGAGGTGTAGTGTGCGGGACAGAGGGCCTTGAGATGCCTTTCTGTTGGTGTTTTA  
GTGTTAAATACGGAGAGTATGGAACCTCTTCACTCCATTTTCTCAGCGGCTGTGAAGCAGCCTCTAGCTTCGG  
AAGTACGGACACTACGTCGCGTTTTCAAGCGTGTCTGTTCTGCAGGTAACAGCATCAAGCTGCACGTGGAAGCAT  
CTCGCGGTTTTCTAGAAACAGGCATTTTCTTATCCCTCTCCCGCTCCTTTTTCCACAAAGGTGAATTTCAATAAT  
GTAATACTAGTAAAGTGAATGAATTACTGAGTTTATACAGAAATTTAGGTAACTTCTCCTTTAGTCTCAAGAGCG  
AGTCTTGCTTTTTAATGGGTGCCGTTTATGTTGCTGCCCCCCTGTGTGCTGGCTCCTCTGGGTGCCCTTGGTGT  
CTGCTGGTGGCTGGCAGTGGGCGCAGCGGAGGAGATTGTGCTGCAGCTCATACGGTGTGTCTGTCTATCTCAGTC  
TGGAGTAAATGCAGTGTCTGCCGCTGTCTGATGGGTCTGTGCTCCTCGTATTTTCTTTGCTTCTATCCATTGCC  
TGGCTACCGCTGCCTGGCAGCCAAGGTTGTTGGTGCAGAAAGCTGGAGTGGCCTCTGGTGGAGCCTGCATCTTGTC  
TCGCTGCTCTGCTTTACATTTGGTGTACTTTTGGGCGTGGTGGCAGTAAATGACACCGTGATTGAGCTTGTC  
AGCAGAGCTGAAAGAGAAAGTAGAAGGATGTGCATTGTTTCTTGTAAGATATCTTGATGTATCTGTGTATTCAA  
ATTCAAACAGAGATGGTTTGTCCATTTGTCCACTGAGAAATTAGAACTAGGGACAAGGGGGAGGAAAAGTACTG  
AAATACAGTTTTATGAAGCAAGTGTGTCTCGGGCTGTGCTTGTCCCAGGAGCCCCAGCAGCATCTGAACTGAGGCT  
TCTTCAGTCTTGAGGAACAGGATCATCTGTCTCAGCGGTGGGCAGATGTTTTCATAGACAGCCAGGGAGTAAAC  
ACTGTTGGCTCTGTGGGCTGTATGGTCTCTGCCATAAATAGTACAGAGATGTGGCTGTGTCTAGTACAACTTTTA  
GACACAGAAATCTGAATGACATATATTGTTCTGTGTCAAGAACTTAGATTTTTTTTTTAAGTATTTAAAAACGT  
GAAACCTATTCTTAGCTCACAGGCCATGGAGAAGCTGGTGGGGACAGACCCAGCTCCTTAGCTGGCTGGGCTGG  
GGAGGGGGTAGTGACAGTGGCAGCTGCTACTCACTGCTCAGTGTGGAAAACACAGGACTTGGCAATCACAGCCCCG  
CAGAACCATCATGTGTGGCAGAAGCCTGAGGGATGCGGTTTTCTTGCCACGTGCTCTGTTTCTGTTGTTT  
TTCTGCACTTAAAGAAATTCATGGAAGCATGTTTTATAAAATGAATTACCAGAGAAAACAGAGATGGGCCGAGAT  
TTTCAGAAATGGTCCCATGTGACCAAGTTCTGCTGTTTGGGTGACAGTGCTTTGAAGATCTCCTTTGAGGATGTG  
CAGTCTTTTTTTTTTTTTTTTGGAGTGGAGTTTGTGCCCAGGCTGGAGTGAGTGGCACAGTCTCGGCTCACTG  
CAACCTCCACCTCCTGGGTTCAAGCAGTTCTCGTGCCGACGCTCCCAAGTAGCTGGGACTACAGGCATGCACCA  
CCACGCCAGGCTAATTTTTGTATTTTTAGTAGAGATGGGGTTTTACCATGTCTCAAACCTCTGACCTCAGGCGAT

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**FIGURE 4710B**

CCACCCACCTCAGCGTCCCAAAGTGCTGGGATTATAGGCGTGAGCCACCGCACCTGGCCTATGAGTGGTCTTTTA  
ATTAGGAACAAATCTAATGGAAAGGAGAGTTGACTGAAGTTGGCCACAGGATTGTGAGCTGGGCAGTGCCTTCA  
TGAAGGCTTGCCACCTTGGGACGCCCCAGTTTACTGGGGTGTCTTGCGGAGTGCAGAAGGCTTTCTGGCAGCTGC  
CTGGGTTTGGCCAGACCCTGCCTCCCCCTCCCGCCGGCCAACCCCTAGTCCCCTTCCCTGTCTCCACTTGCATTAG  
GGGTGGCTGCTGTTCTGAGAACATTAGAACTGGGAAGAGAGATGGAGTCACATGGATTTTTGGTGGGCATTATTC  
TAAACTTTTCGTATCCAAGTTAGTCCCCCTTATTCCACTGTGGCATTGCCGTTCTAAGCAGTTACCTGATGCCTGC  
TGCTGAAGAGCTGCTCACAGGAGGCGGCGGCCGCTGGCACTGCCCCCTTGCAATTAGGTCTTGTGTTTGATGTGT  
TCTTGTGAATTTACTTTGTGAGAACAAAATATTTACGCGTTGGGTTTCAGGAATTTCTTTTAGCTCCCCATCTGGC  
TGTGAAATTCAGGAAACCTCCCGTTGCCTAGTAATCACCCCATGTAGGTGTACATTGTGACAAAGTGCATCTGAC  
CACTAAGGGGCCCCCTTGGTGACCCAGCACATTACAGCAGTGTAAATGGCCTGCATTTTGAGATGCTGGC  
TGGCCTTTTCACTGCCTCCCAGGAAGACACATGGCCTTTCCCTCTTCCAGATGCCTGAAGGGAGTGCTTTGAGGCAG  
GTGATGTGCTGGGAGTGTGGGCGGCCCTCCCTCTGGCCCCGGGGCCCTCTGTGGACCTTGGCTCCCTCCGTGGACC  
TGGGCTTCGTGGTGAGCACTGCAGCCTCCCTGGGCATTCCCTCCAGCGCCAGCACCACTGCAACATATAGACCTG  
AGTGCTATTGTATTTTGGCTTGGTGTGTATGCTCTTCATTGTGTAAATTTGCTGTTCTTTTGACAATTTAAGTGA  
TTGTTTTGTTTACTGTAAAGTTTGAAAATAAAAATGAAGAAAAAATTCCAATGACTGTGCTGTGGTTGGAGACTT  
TATTTACCAAGATGTTTACTCTTCCCTTCCCCTTCCATTTTGAGGAGCTGTGTCACTCCTCCTCCCCCAGTGC  
TTTGTAGTCTCTCCTATGTCATAATAAAGCTACATTTTCTCTG

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**FIGURE 4711**

MVSRPEPEGEAMDAELAVAPPGCSHLGSFKVDNWKQNLRAIYQCFVWSGTAEARKRKAKSCICHVCGVHLNRLHS  
CLYCVFFGCFTKKHIHEHAKAKRHNLAIDLMYGGIYCFQCQDYIYDKDMEIIAKEEQRKAWKMQGVGEKFSTWEP  
TKRELELLKHNPKRRKITSNCTIGLRGLINLGNTCFMNCIVQALHTHTPLLRDFFLSDRHRCEMQSPSSCLVCEMS  
SLFQEFYSGHRSPHIPYKLLHLVWTHARHLAGYEQQDAHEFLIAALDVLHRHCKGDDNGKKANNPNHCNCIIDQI  
FTGGLQSDVTCQVCHGVSTTIDPFWDISLDLPGSSTPFWPLSPGSEGNVVNGESHVSGTTTLTDCLRRFTRPEHL  
GSSAKIKCSGCHSYQESTKQLTMKKLPVACFHLKRFEHSAKLRRKITTYVSFPLELDMTPFMASKE SRMNGQY  
QOPTDSLNNNDNKYSLFAVVNHQGTLES GHYTSFIRQHKDQWFKCDDAIITKASIKDVLDSEGYLLFYHKQFLEYE

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**FIGURE 4712A**

GTGGTGTGCGGTGTCGGCAGCATCCCCGGCGCCCTGCTGCGGTGCGCGGAGCCTCGGCCTCTGTCTCCTCCCCTT  
CCAGCCCTCACCTCCACGCGGGACCGCTCGCGCCAGTCAACTCCGCGCACGTTGCCCCCTGCTTGCCAGCCAATAA  
AAGGGGGCTGAGGAAATACCGGACACGGTCACCCGTTGCCAGCTCTAGCCTTTAAATTCCCGGATCGGGCACCTC  
CACGCACCGCGGCTAGCGCCGACACCCAGCTAGCGTGCAAGGCGCCGCGGCTCAGCGCGCACCGGCGGGCTTCGA  
AATCGCAGTCTCCGGCGACCCCGAACTCCGCCCCGGAGCCTCAGCCCCCTGGAAAGTGATCCTGGCATCCGAGAG  
CCAAGATGCCGGCCCCACTTGCTGCAGGACGATATCTCTAGCTCCTATACCACCACCACCACCATTACAGCGC  
CTCCTTCCAGGGTCCCGCAGAATGGAGGAGATAAGTTGGAGACGACGCCCCCTCTACTTGGAAGAAGACATTCGCC  
CTGATATAAAAGATGATATATATAACCTCACCTACAAGGATAAGGAAGGCCCAAGCCCCAAGGTTGAATATGTCT  
GGAGAAACATCATCCTTATGTCTCTGCTACACTTGGGCGCCCTGTATGGGATCACTTTGATTCTACCTGCAACT  
TATACACCTGGCTTTGGGGGGTATTCTACTATTTTATCAGTGCCTTGGGCATAACAGCAGGAGCTCATCCTCTGT  
GGAGCCACTGATCTTACAAAGCTCGGCTGTCCCTGTGGCTCTTTCTGATCATTGCCAACACAATGGCATTCCAGA  
ATGATGTCTATGAATGGGCTCGCGACCACCGTGCCACCACAAGTTTTTCAGAAACACATGCTGATCCTCATAATT  
CCTGACGTGGCTTTTTCTTCTCTCACGTGGGTTGGCTGCTTGTGCGCAAACACCCAAGTGTCAAAGAGAAGGGCA  
GTACGCTAGACTTGTCTGACCTAGAAGCCGAGAACTGGTGATGTTCCAGAGGAGGTACTACAAACCCGGCTTGC  
TGTTGATGTGCTTCATCCTGCCCACGCTTGTGCCCTGGTGTCTTGGGGTGAAACTTTTCAAAACAGCGTGTTCG  
TTGCCACTTTCTTGCGATATGCTGTGGTGCTTAATGCCACGTGGCTGGTGAACAGTGCTGCCCACCTCTTCAGAT  
ATCGTCTTATGACAAGAACATTAGCCTCCGGGAGAATATCCTGGTTTTACCTGGAGCTGTGGGTGAGGGCTTTC  
ACAACTACCACCACTCCTTTCCCTATGACTACTCTGCCAGTGAGTACCGCTGGCACATCAACTTCACCACATTCT  
TCATTGATTGCATGGCCGCCTTCGGTCTGGCCTACGACCAGAAGAAAGTCTCCAAGGCCGCATCTTGCCAGGA  
TTAAAAGAACCAGGAGAGGGAACTACAAGAGTGGCTGAGTTTGGGGTCCCTCAGGTTCTTCTTCAAAAGCCAGC  
CAGGCAGAGGTTTTAATGTCTGTTTATTAATACTACTGAATAATGCTACCAGGATGCTAAAGATGATGATAACC  
CATTCCAGTACAGTATTCTTTTAAATTCGAAAGTATTGAAAGCCAACAACCTCTGCCTTTATGATGCTAAACTGA  
CATTATTTCTTCTCTTATCCTCTCTCTCTCTCTAGGCCATTGTCTCTCTTTTCACTTTGTGCTATCATCCTCT  
TTCTCTTATTGCCACCCAGGCAAGCAGCTGGTCACTCTTTGTTTCACTGTCCAGCTTCCAAGCCCTAGACAACCTT  
TCTGTAGCCTAAAACGAATGGTCTCTGCTCCAGATAACTCTCTTTCTTGAGCTGTTGTGAGCTTTGAAGTAGGT  
GGCTTGAGCTAGAGATAAAACAGAATCTTCTGGGTAGTCCCCTGTTAATTATCTTCAGCCAGGCTTTTGCTAGA  
TGGAATGGAAAAGCAACTTCATTTGACACAAAGCTTCTAAAGCAGGTAAATTGTTGGGGGAGAGAGTTAGCATGT  
ATGAATGTAAGGATGAGGGAAGCGAAGCAAGAGGAACCTCTTGCCATGATCAGACATGCAGCTGCCTACCTAGTG  
AGGACTTCAAGCCCCACCACATAGCATGCTTCTCTCTCTCTGCTTGGGTAAGAAGTGGCTGTGGTGTGTTGG  
CAATGCTAATTCAATGCCGCAACATATAGTTTAGGCCAAGGATAAAGAAGAGACACTTTAAGTTTGTAGTAAAG  
TGGTCTCTGCTGGGGAAGGGTTTTCTTTCTTTTTTTCTTTAATAACAAGGAGATTTCTTAGTTTCATGTATCAAG  
AATTCTTGAAGTTGGGTGTTTCCATAATTGGTAAAAACAGCAGCTCACAGAATTTTGTAGTATTCCATGAGCTGCT  
CATCACAGTTCTTTCTCTTTCTGCTCTGCCATCTTCAGGATATTGGTTGTTCCCCTCATAGTAATAAGATGGCT  
GTGGCATTTCGAACCATCCAAAAAAGGGAAGGATTTTAGGAGGTGGAGTCGGGTCAAACAAGAAATATATATAT  
ACATATATACATTGCTTAGAACGTTAAACTATTAGAGTATTTCCCTCCCAAAGAGGGATGTTTGAAAAACTCTG  
AAGGAGAGGAGGAATTAGTTGGGATGCCAATTTCTCTCCACTGCTGTACATGAGATGGGGAGGTTGAGGGACAG  
GATCTATAGGCAGCTTCTAAGAGCAAACCTTCACACAGGAAGGGATCTGAGAACACATTGCCGGGGGCTTGAGAAG  
GTTACTGAGTGAGTTATTGGGAGTCTTAATAAAATAAACTAGATATTAGGTCCATTCAATTAATTAGTTCCAGTTT  
CTCCTTGAAATGAGTAAAAACTAGAAGGCTTCTCCCAAGTGTGTGCCCCCTTCACTCATTTTTTATTGGCGGG  
GTGGGGGGCTCTGTTAACATCTAGCCTAAGTATAGAACTGCCTGGGGGGCAGGGTTAGGAATCTCTTCACTACCC  
TGATTCTTGATTCTGTTCTACCTGTCTGTCCCTTTCTTTTACTAGATCTTTCTCTTCCCTGAACGTTTTCT  
TCTTTCCCTGGACAGGCAGCCTCCTTTGGGTGTATTAGAGGCAGTGATGACTTGCTGTCCAGGCAGCTCCCTCC  
TGCAGACAGAATGCTCAGGGTCACTGAACCACTGCTTCTCTTCCGAAAGTAGAGCTAGCTGCCACTTTCGCATGG  
CCTCCGGAGTGTCTCCACCTACACCTCTGTGCTCCCCGCCACACTGATGGCTCAAGACAAGGCTGGCAAACCTT  
CCCAGAAATGTCTCTGGCCCAGAAAGCCTCTCTCTCCCTCCCTCTCTCATGAGGCACAGCCAAGCCAAGTGCTCA  
TGAGCCAGTGGGCCCTGCCACAGAGCAAACGAGGGTTTTATTTTCACTCCCTCTCTCTGATCAGAACCAGAGAGC  
ATGCTGAATGCCCCCTCTGCTTGCTCGGTAAGGGTGCCCCACCTGAATCAGTGCTCTCAGCTGGCAGTGCAATGCT  
TGTAAGTAGGAGGAAACAGTTCTCACTGGGAAGAAGCAAGGGCAAGAACCCAAGTGCCTCACCTCAAAAGGAG



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**FIGURE 4712B**

GCCCTGTTCCCTGGAGTCAGGGTGAAC TGAAACCTTTGGCTGAGACCTGGGATTTGAGATACCACAAACCCTGC  
TGAACAGAGTGTCTGTTTCAGCAAAC TAACCAGCATTCCCTATAGCCTAGGGAATAGTATAGAAGTCTGGCAAAA  
CAGAAACAGAACATCAGTGTTTTGAGAACCTTGGACTACTCCTGTCCCTGTAGCTCAGTCATCAAAGCAGAAGCC  
TGGCTTTGCTCTATTAAGATTGGAAATGTACACTACCAAACACTCAGTCCACTGTTGAGCCCCAGTGCTGGAAGG  
AAGGAGGGCCTTTCTTCCTGTGTTAATTGCATGGAGGCTACAGGGGTTAGCCTGGACTAAAGGCATCCTTGTGTT  
TTGAGCTATTACCTCAGTAGAAAAGAATCTAAGGGAAGATCACTGTAGTTTAGCTCTGTTGACCTGTGCACCTA  
CCCCTTGGAATGTCTGCTGTTATTTCTAATTCCACAGGTCATAAGATGCCTTCTTGATGATATATGAACGATAA  
AAACAACCTTTCACCTCTTCCTATTGTAATCGTGTGCCATGGATCTGATCTGTACCATGACCCTACATAAGGCTGG  
ATGGCACCTCAGGCTGAGGGCCCCAATGTATGTGTGGCTGTGGGTGTGGGTGTGGGTGTATCTGCTGAGTAAGG  
AACACTATTCTCAAGATTCTAAAGCTCAATTCAAGTGACACATTAATGATAAACTCAGATCTGATCAAGAGTCTG  
GATTTCTAACAGTCCCTTGCTTCGGGGCTGTGCTGGCACTTAACCTCGGGTGCCTTACATCTTTTCTAATCATAGT  
GTTGCATATGAGCCTGCCCTCACTCCCTCTGTGGAATCCCTTTGCACCTGAGAGCCTACTGAAGTGGCTGGTAGA  
AAAAGGGGCCTGAGTGAAAGGATTATCAGTATCGCGATTTCAGGATTCCCTTCTGGGCTTCATTCTGGAACTTT  
TGTTAGGGCTGCTTTTAAAGTGCCACATTTGATGGAGGGTGGAAGTAATTTGAATGTATTTGATTTATATATATA  
TATATTTTTTAAGGTTAAAAGATGGTTGTAGCATTTAAAATGGAAAATTTTCTCCTCGGTTTGCTAGTATCTTGGG  
TGTATTCTCTCTAAGTGTAGCTCAAATAGGTCATCATGAAAGGTTAAAAAAGTGAGGTGGCCATGTTACGCTGGT  
GGTTAAGGCCAGGGCCTCTCCTACCACTGTGCCACTGACTTGCTATGTACCCCTGGGCAAGTCACTTAACATAA  
GGTGCCTCAGTTTTCTTCTGTAAATGGGGATAATAATACTGACCTACCTCAAAGGGCAGTTTTGAGGCGTGA  
CTAATGCTTTTTAGAAAGCATTTTGGGATCCTTCAGCACAGGGATTCTCAAGACCTGAGTATTTTTTATAATAGC  
AATGTCCACCATCAACTTGATATGTCCGTGTGTCCCAGATGCTGTCAATTAGTCTATATGGTTCTCCAAAAAATTG  
AATGAATCCATTGGAGAAGCAGTGGATTAAGTAGCCAGACAAAATTTGAGAATGCATAAAAAACACATTGCCACG  
GAAACATACAGAGGATGCCTTTTCTGTGATTGGGTGGGATTTTTTCCCTTTTTATGTGGGACATAGTAGTTACTT  
GTGACAAGAATAATTTTGAATAATTTCTATTAAACATCAACTCTGAAGCTAATTGTACTAATCTGAGATTGTGTT  
TGTTTATAATAAAAGTGAAGTAATC

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**FIGURE 4713**

ACGGTCACCCGTTGCCAGCTCTAGCCTTTAAATTCCTGGATCGGGCACCTCCACGCACCGCGGCTAGCGCCGACA  
CCCAGCTAGCGTGCAAGGCGCCGCGGCTCAGCGCGCACCGGCGGGCTTCGAAATCGCAGTCCTCCGGCGACCCCG  
AACTCCGCCCCGGAGCCTCAGCCCCTGAAAAGTGATCCTGGCATCCGAGAGCCAAGATGCCGGCCCACTTGCTGC  
AGGACGATATCTCTAGCTCCTATACCACCACCACCACCATTACAGCGCCTCCTTCCAGGGTCCCGCAGAATG  
GAGGAGATAAGTTGGAGACGACGCCCCCTACTTGGAAGAAGACATTGCCCCTGATATAAAAGATGATATATATA  
ACCTCACCTACAAGGATAAGGAAGGCCCAAGCCCCAAGGTTGAATATGTCTGGAGAAACATCATCCTTATGTCTC  
TGCTACACTTGGGCGCCCTGTATGGGATCACTTTGATTCTTACCTGCAACTTATACACCTGGCTTTGGGGGGTAT  
TCTACTATTTTATCAGTGCCCTGGGCATAACAGCAGGAGCTCATCCTCTGTGGAGCCACTGATCTTACAAAGCTC  
GGCTGTCCCTGTGGCTCTTTCTGATCATTGCCAACACAATGGCATTCCAGAATGATGTCTATGAATGGGCTCGCG  
ACCACCGTGCCACCACAAGTTTTTCAGAAACACATGCTGATCCTCATAATTCCTGACGTGGCTTTTTCTTCTCTC  
ACGTGGGTTGGCTGCTTGTGCGCAAACACCCAAGTGTCAAAGAGAAGGGCAGTACGCTAGACTTGTCTGACCTAG  
AAGCCGAGAACTGGTGATGTTCCAGAGGAGGTACTACAAACCCGGCTTGCTGTTGATGTGCTTCATCCTGCCCA  
CGCTTGTGCCCTGGTGTTTTCTGGGGTGAACTTTTCAAACAGCGTGTTTCGTTGCCACTTTCTTGCGATATGCTG  
TGGTGCTTAATGCCACGTGGCTGGTGAAACAGTGCTGCCCACCTCTTCAGATATCGTCCTTATGACAAGAACATTA  
GCCTCCGGGAGAATATCCTGGTTTCACCTGGAGCTGTGGGTGAGGGCTTTCACAACTACCACCCTCCTTTCCCT  
ATGACTACTCTGCCAGTGAGTACCGCTGGCACATCAACTTCACCACATTCTTCATTGATTGCATGGCCGCCTTCG  
GTCTGGCCTACGACCAGAAGAAAGTCTCCAAGGCCGCCATCTTGCCAGGATTAAAAGAACCGGAGAGGGAACT  
ACAAGAGTGGCTGAGTTTGGGGTCCCTCAGGTTCTTCTTCAAAGCCAGCCAGGCAGAGGTTTTAATGTCTGTT  
TATTAAGTACTGAATAATGCTACCAGGATGCTAAAGATGATGATGATAACCCATTCCAGTACAGTATTCTTTTAA  
AATTCGAAAGTATTGAAAGCC

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**FIGURE 4714**

CTTCCCTTTTGCGGCCATCACCGAAGCGGGAGCGGCCAAAATGAAGTTTAATCCCTTTGTGACTTCCGACCGAAG  
CAAGAATCGCAAAAGGCATTTCAATGCACCTTCCACATTGGAAGGAAGATTATGTCTTCCCTCTTTCCAAAGA  
GCTGAGACAGAAGTACAACGTGCGATCCATGCCATCCGAAAGGATGATGAAGTTCAGGTGTACGTGGACACTA  
TAAAGGTCAGCAAATTGGCAAAGTAGTCCAGGTTTACAGGAAGAAATATGTTATCTACATTGAACGGGTGCAGCG  
GGAAAAGGCTAATGGCACAACTGTCCACGTAGGCATTACCCCAGCAAGGTGGTTATCACTAGGCTAAACTGGA  
CAAAGACCGCAAAAAGATCCTCGAACGGAAAGCCAAATCTCGCCAAGTAGGAAAGGAAAAGGGCAAATACAAGGA  
AGAAACCATTGAGAAGATGCAGGAATTAAAGTAATCTTATATACAAGCTTTGATTAAACTTGAAACAAAGAAAA

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**FIGURE 4715**

MKFNPVFTSDRSKNRKRHFNAPSHIRRKIMSSPLSKELRQKYNVRSMP IRKDDEVQVVRGHYKGQQIGKVVQVYR  
KKYVIYIERVQREKANGTTVHVGIHPSKVITRLKLDKDRKKILERKAKSRQVGKEKGKYKEETIEKMQE

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**FIGURE 4716A**

GGAGAAGGCGGGCGGAAGTTCCACGCCAAGATACTGGATTTCGGTGCTGAGGCGGCGGCTGCGGCACGGGAAAGGC  
TCAGTGACTGAAGCTCCAAAGGCCAGCAGGCTGGTGGGGACGTGACCGAAGCGAGGCTCTGGTTCCCTTTTCGGTG  
GGCGCCATTTGAGCCTCATCTCTGGCTTCCCCAGGATGCGCCGGCAGCCGGGGAGCGGCTCCGGGCGCGAGGTCT  
GAGGATGATCTTTCTGTGCGCCGCTACGCGCTCCGGTGGCTGCGACGGCCCGAAGACCGTGCCTTTTCCGCGC  
CGCCATGGAGATGGCCCTCCGAGGCGTGCGGAAAGTCCTCTGTGTGGCCGAAAAAACGACGCGGCCAAGGGGAT  
CGCCGACCTGCTGTCAAACGGTCGCATGAGGCGGAGAGAAGGACTTTCAAATTCAACAAGATCTATGAATTTGA  
TTATCATCTGTATGGCCAGAATGTTACCATGGTAATGACTTCAGTTTCTGGACATTTACTGGCTCATGATTTCCA  
GATGCAGTTTTCGAAAATGGCAGAGCTGCAACCTCTTGTCTCTTTGAAGCAGAAATTGAAAAGTACTGCCCAGA  
GAATTTTGTAGACATCAAGAAAACCTTTGGAACGAGAGACTCGCCAGTGCCAGGCTCTGGTGATCTGGACTGACTG  
TGATAGAGAAGGCGAAAACATCGGGTTTGAGATTATCCACGTGTGTAAGGCTGTAAAGCCCAATCTGCAGGTGTT  
GCGAGCCCGATTCTCTGAGATCAACCCCATGCCGTGAGGACAGCTTGTGAAAACCTGACCGAGCCTGATCAGAG  
GGTGAGCGATGCTGTGGATGTGAGGCGAGGCTGGACCTGAGGATTGGAGCTGCCTTTACTAGGTTCCAGACCTT  
GCGGCTTCAGAGGATTTTCTGAGGTGCTGGCAGAGCAGCTCATCAGTTACGGCAGCTGCCAGTTCCCCACACT  
GGGCTTTGTGGTGGAGCGGTTCAAAGCCATTGAGGCTTTTGTACCAGAAATCTTCCACAGAATTAAAGTAACTCA  
TGACCACAAAGATGGTATCGTAGAATTCAACTGGAAAAGGCATCGACTCTTTAACCACACGGCTTGCTTAGTTCT  
CTATCAGTTGTGTGTGGAGGATCCCATGGCAACTGTGGTAGAGGTGAGATCTAAGCCCAAGAGCAAGTGGCGGCC  
TCAAGCCTTGAGACTGTGGAGCTTGAGAAGCTGGCTTCTCGAAAGTTGAGAATAAATGCTAAAGAAACCATGAG  
GATTGCTGAGAAGCTCTACACTCAAGGGTACATCAGCTATCCCCGAACAGAAACAACATTTTCCAGAGACTT  
AAACCTGACGGTGTGGTGGAAACAGCAGACCCCCGATCCACGCTGGGGGGCCTTTGCCAGAGCATTCTAGAGCG  
GGGTGGTCCACCCACGCAATGGGAACAAGTCTGACCAAGCTCACCTCCCATTCACCCACCAATAACACCAA  
CAACTTACAGGGAGATGAACAGCGACTGTACGAGTTTATTGTTCCGCTTCTGGCTTGTGCTCCCAGGATGC  
TCAGGGGCGAGGAGACCACAGTGGAGATCGACATCGCTCAGGAACGCTTTGTGGCCCATGGCCTCATGATTCTGGC  
CCGAAACTATCTGGATGTGTATCCATATGATCACTGGAGTGACAAGATCCTCCCTGTCTATGAGCAAGGATCCCA  
CTTTCAGCCAGCACCCTGGAGATGGTGGACGGGGAGACCAGCCACCCAGCTGCTCACCAGGCGGACCTCAT  
TGCCCTCATGGAGAAGCATGGCATTGGTACGGATGCCACTCATGCGGAGCACATCGAGACCATCAAAGCCCGGAT  
GTACGTGGGCCTCACCCAGACAAGCGGTTCCCTCCCTGGGCACCTGGGCATGGGACTTGTGGAAGGTTATGATTC  
CATGGGCTATGAAATGTCTAAGCCTGACCTCCGGGCTGAACTGGAAGCTGATCTGAAGCTGATCTGTGATGGCAA  
AAAGGACAAATTTGTGGTTCTAAGGCAGCAAGTGCAGAAATACAAGCAGGTTTTCATTGAAGCGGTGGCTAAAGC  
AAAGAAATTGGACGAGGCCTTGCGCCAGTACTTTGGGAATGGGACAGAGTTGGCCCAGCAAGAAGATATCTACCC  
AGCCATGCCAGAGCCCATCAGGAAGTGCACAGTGCAACAAGGACATGGTCTTAAAGACCAAGAAGAATGGCGG  
GTTCTACCTCAGCTGCATGGGTTTCCAGAGTGTGCTCAGCTGTGTGGCTTCTGACTCGGTGCTGGAGGCCAG  
CAGGGACAGCAGTGTGTGTCCAGTTTGTGAGCCACACCTGTGTACAGGTTAAAGTTAAAGTTTAAAGCGCGGTAG  
CCTTCCCCGACCATGCCTCTGGAGTTTGTGTGCTGCATCGGCGGATGCGACGACACCTGAGGGAGATCCTGGA  
CCTGAGATTTTCAGGGGGCCCCCAGGGCTAGCCAGCCCTCTGGCCGCTGCAGGCTAACAGTCCCTGAACAG  
GATGGACAACAGCCAGCACCCACAGCTGCTGACAGCAGACAGACTGGGTCTCAAAGGCTCTGGCCCAGACCTT  
CCCACCACCCACGGCTGCTGGTGAAAGCAATTCTGTGACCTGCAACTGTGGCCAGGAGGCTGTGCTGCTCACTGT  
CCGTAAGGAGGGCCCCAACCGGGGCCGGCAGTTCTTTAAGTGCAACGGAGGTAGCTGCAACTTCTTCTGTGGGC  
AGACAGCCCCAATCCGGGAGCAGGAGGGCCTCCTGCCTTGGCATATAGACCCCTGGGCGCCTCCCTGGGATGCCC  
ACCAGGCCCAGGGATCCACCTAGGTGGGTTTGGCAACCTGGTGATGGCAGTGGTAGTGGCACATCCTGCCTTTG  
CAGCCAGCCCTCCGTACACGGACTGTGCAGAAGGATGGACCCAACAAGGGGCGCCAGTTCCACACATGTGCCAA  
GCCGAGAGAGCAGCAGTGTGGCTTTTTCAGTGGGTGATGAGAACACCGCTCCAGGGACTTCTGGAGCCCCGTC  
CTGGACAGGAGACAGAGGAAGAACCCTGGAGTCGGAAGCCAGAAGCAAAAGGCCCCGGGCCAGTTCTCAGACAT  
GGGGTCCACAGCAAAGAAACCCCGGAAATGCAGCCTTTGCCACCAGCCTGGACACACCCGTCCTTTTGTCTCA  
GAACAGATGAGCTCAGGGTAGGGTAGAGAAGCCACTTTCTCAGACCTGTCCCCTTTGTGTTTAGAAATGAGTTA  
ACCAGGACCAAGTGGCCATTTAGTGTCTGGAACCTTAGAGGACAGTGTGGCCTTTGGAGTCGGGCCCTTCTGT  
GTTAAGGGGCACAAGGTCCAGATCACTCTGGAGCAGGCCAGCTCTGCTGGACAGTGACCCTCTTCCAGGCCTCA  
GGAGTGACCATAGCCACTGCTGAAAAGTCACGCAGCTGCTCCCTCGGACCCCCAAGGATGGTTGCTGTTAGCAG  
AGGATTGGTGCAGTCCAGCTGAAGCCACTGTGTGCCAAAGGAAGAAGCTCCAGGGCTGCTTCTTCCACTGC

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**FIGURE 4716B**

AGAAAGCCCCAAGTGAGCCACCAGCACTCATGGGGCAGTCCCTGTCCAGGCTGCCAGGGCTTCTCATAGACGTC  
CTGAGAAGGACGGTGTAATGCAAGGAAATGGCTGTGGTAACACTGATCCTTCAGAAGAAGCTTCATTCCCTCTTA  
ATCTAGTTAAGCCAGGACATCCAGAATTCATTGCTTTAATAAAGAACCCAGGCCGGG

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**FIGURE 4717**

MIFPVARYALRWLRRPEDRAFSRAAMEMALRGVRKVLCAEKNDAAKGIADLLSNGRMRRREGLSKFNKIYEFDY  
HLYGQNVMTVMVTSVSGHLLAHDFQMQRKWQSCNPLVLFEEAIEKYCPENFVDIKKTLERETROCCALVIWTDCCD  
REGENIGFEIIHVCKAVKPNLQVLRARFSEITPHAVRTACENLTEPDQRVSDAVDVROELDIRIGAAFTRFQTLR  
LQRIFFEVLAEQLISYGSCQFPPTLGFVVERFKAIQAFVPEIFHRIKVTHDHKDGIVEFNWKRHRLFNHTACLVLVY  
QLCVEDPMATVVEVRSPKPSKWRPQALDTVELEKLASRKLRLINAKETMRIAELYTQGYISYPRTETNIFPRDLN  
LTVLVEQQTPDPRWGAFASILERGGPTPRNGNKSQAHPPIHPTKYTNNLQGDEQRLYEFIVRHFLACCSQDAQ  
GQETTVEIDIAQERFVAHGLMILARNYLDVYPYDHWSDKILPVYEQGSHFQPSTVEMVDGETSPPKLLTEADLIA  
LMEKHGIGTDATHAEHIETIKARMYVGLTPDKRFLPGHLGMGLVEGYDSMGYEMSKPDLRAELEADLKLI CDGKK  
DKFVVLRRQQVQKYQVFI EAVAKAKKLDEALAQYFGNGTELAQQEDIYPAMPEPIRKCPQCNDMVLKTKKNGGF  
YLSCMGFPCECRSAVWLPDSVLEASRDSSVCPVCQPHFVYRLKLKFKRGSPLPTMPLEFVCCIGGCDDTLREILD  
RFSGGPPRASQPSGRLQANQSLNRMDNSQHPQPADSRQTGSSKALAQTLPPPTAAGESNSVTCNCGQEAVLLTVR  
KEGPNRGRQFFKCNGGSCNFFLWADSPNPGAGGPPALAYRPLGASLGCPGPGIHLGGFGNPGDGS GSGTSC LCS  
QPSVTRTVQKDGPNGRQFHTCAKPREQQCGFFQWVDENTAPGTSGAPSWTGDRGRTLESEARSKRPRASSSDMG  
STAKKPRKCSLCHQPGHTRPFQNR

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**FIGURE 4718**

GCCACTGCTGAAAAGTCACGCAGCTGCTCCCTCGGACCCCCCAAGGATGGTTGCTGTTAGCAGAGGATTGGTGCA  
GTCCCAGCTGAAGCCCCTGTGTGCCAAAGGAAGAAGCTCCCAGGGCTGCTTCCTTCACCTGCAGAAAGCCCCAA  
GTGAGCCACCAGCACTCATGGGGCAGTCCCTGTCCAGGCTGCCAGGGCTTCTCATAGACGTCCTGAGAAGGACG  
GTGTAATGCAAGGAAATGGCTGTGGTAACACTGATCCTTCAGAAGAAGCTTCATTCCCTCTTAATCTAGTTAAGC  
CAGGACATCCAGAATTCATTGCTTTAATAAAGAACCCAGGCCGGGTGCAGTGGCTCATGCCTGTAATCCCAGCAC  
TTTGGGAGGCTGTGGGGGGCGGATTGCCTGAGCTCAGGAGTTCGAGACCAGCCAGGGCAACATGGTGAAACCCTG  
TCTCTACTAAAATACAAAAAATTAGCCAGGTGTGGCGGTGTGCGCCTGTAGACCCGGCTACTCAGGAGGCTGAGG  
TTGCAGTGAGCTGAGATCGGGCCATTGCACTCCAGCCTGGGCAAAAAGAGTGAAACTCTGTCTCAAGAAAAAAA  
AAAAA



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**FIGURE 4719A**

CTAGCCCGGCGCGGCCCGGCAGCGAGAGCGGCGCCATGAGGACCACCGGGGTGCTGCCGTTCTGTGCGTGGCGTGG  
ACCTCAGCGGCAACGACTTCAAGGGCGGCTACTTCCCTGAGAATGTCAAGGCCATGACCAGCCTGCGGTGGCTGA  
AGCTGAACCGCACTGGCCTCTGCTACCTGCCCCGAGGAGCTGGCCGCCCTGCAGAACTGGAACACTTGTCTGTGA  
GCCACAACAACCTGACCACGTTTCATGGGGAGCTGTCCAGCCTGCCATCGCTGCGCGCCATCGTGGCCCCGAGCCA  
ACAGTCTGAAGAATTCCGGAGTCCCCGATGACATCTTCAAGCTAGATGATCTCTCAGTCTTGACTTGAGCCACA  
ACCAGCTGACAGAGTGCCCGCGGGAGCTGGAGAACGCCAAGAATGCTGGTGTGTAACCTCAGCCACAACAGCA  
TCGACACCATCCCCAACCAGCTCTTCATCAACCTCACTGACCTACTATACTGGACCTCAGCGAGAACCGCCTGG  
AGAGCCTGCCCCCGCAGATGCGCCGCTGGTGCACCTGCAGACGCTCGTGTCAATGGAACCCCTGCTGCATG  
CACAGCTCCGGCAGCTCCCAGCGATGACGGCCCTGCAGACCCTGCACCTGCGGAGCACCAGCGCACCAGAGCA  
ACCTGCCCCACCAGCCTGGAGGGTCTGAGCAACCTGCGAGACGTGGATCTGTCTGCAATGACCTGACACGGGTGC  
CCGAGTGTCTGTACACCTCCCCAGCCTGCGCCGCTCAACCTCAGCAGCAACCAGATCAGGAGCTGTCCCTGT  
GCATAGACCAGTGGGTGCACGTGGAACTCTGAACCTGTCCCGAAATCAGCTCACCTCACTGCCCTCAGCCATTT  
GCAAGCTGAGCAAGCTGAAGAAGCTGTACCTGAATTCCAACAAGCTGGACTTTGACGGGTGCCCTCAGGCATTG  
GCAAGCTCACCAACCTGGAAGAGTTTCATGGCTGCCAACAACAACCTGGAGCTGGTCCCTGAAAGTCTCTGCAGGT  
GCCCCAAGCTGAGGAACTTGTCTGAACAAGAACCACCTGGTGACCCTCCAGAAGCCATCCATTTCTGACGG  
AGATCGAGGTCTGGATGTGCGGGAGAACCCCAACCTGGTCATGCCGCCAAGCCCGCAGACCGTGCCGCTGAGT  
GGTACAACATCGACTTCTCGCTGCAGAACCAGCTGCGGCTAGCGGTGCTCTCTCTGCTACCGTGGCTGCAGCTG  
CAGCTGCAGGGAGTGGGCCCCAAGGACCTTATGGCTCGCAAGATGCGACTGCGGAGGCGCAAGGATTCAGCCCAGG  
ATGACCAGGCCAAGCAGGTGCTGAAGGGCATGTCAGATGTTGCCAGGAGAAGAACAAGCAGGAGGAGAGCG  
CAGATGCCCCGGGCCCCAGCGGGAAGGTGCGGCTGGGACCAGGGCTGGAGAAGCCCCGCTTGACTACTCCG  
AGTTCTTTCAGGAGGACGTGGGCCAGCTGCCCGACTGACCATCTGGCAGATAGAGAATTCGTGCCTGTGCTGG  
TGGAGGAAGCCTTCCACGGCAAGTTCTACGAGGCTGACTGCTACATTGTGCTCAAGACCTTTCTGGATGACAGCG  
GCTCCCTCAACTGGGAGATCTACTACTGGATTGGCGGGGAGGCCACACTCGACAAGAAAGCTTGCTCTGCCATCC  
ACGCTGTCAACTTGCACAACCTACCTGGGTGCTGAGTGCCGCACCTGTCCGGGAGGAGATGGGCGATGAGAGCGAGG  
AGTTCTGTCAGGTGTTTGACAACGACATCTCCTACATTGAGGGTGGAAACAGCCAGTGGCTTCTACACTGTGGAAG  
ACACACACTATGTCACCAGGATGTATCGTGTGTATGGGAAAAAGAACATCAAGTTGGAGCCTGTGCCCCCTCAAGG  
GGACCTCTCTGGACCCAAGGTTTGTCTTCTGCTGGACCGAGGGCTAGACATCTACGTATGGCGGGGGGCCAGG  
CCACACTGAGCAGCACCACCAAGGCCAGGCTCTTTCAGAGAAAAATTAACAAGAATGAGCGGAAAGGGAAGGCTG  
AGATCACACTGCTGGTGCAGGGCCAGGAGCTCCAGAGTTCTGGGAGGCACTGGGTGGGGAGCCCTCTGAGATCA  
AGAAGCACGTGCCTGAAGACTTCTGGCCGCCGAGCCCAAGCTGTACAAGGTGGGCTGGGCTTGGGCTACCTGG  
AGCTGCCACAGATCAACTACAAGCTCTCCGTGGAACATAAGCAGCGTCCCAAGGTGGAGCTGATGCCAAGAATGC  
GGCTGCTGCAGAGTCTGCTGGACACGCGCTGCGTGTACATTCTGGACTGTTGGTCCGACGTGTTCTATCTGGCTCG  
GCCGCAAGTCCCCGCGCTGGTGCAGCTGCCGCCCTCAAGCTGGGTGAGGCTGTGCGGGATGCTGCACCGGC  
CACGCCATGCCACGGTCAGCCGACGCTCGAGGGCACCAGGGCCAGGTGTTCAAGGCCAAGTTCAAGAATTGGG  
ACGATGTGTTGACGGTGGACTACACACGCAATGCGGAGGCGGTGCTGCAGAGCCCGGTCTCTCCGGGAAGGTGA  
AACGCGACGCCGAGAAGAAAGACCAGATGAAGGCTGACCTGCGCTTTTCTGCGCGGCAGCCGCCATGT  
CGCTGGCCGAGGCGGAGCAGCTGATGGAGGAGTGAACGAAGACCTAGACGGCATGGAGGGTTTCTGTGCTGGAGG  
GCAAGAAGTTTGCAGCGCTGCCGGAAGAGGAGTTTGGCCACTTCTACACGCAGGACTGCTACGTCTTCTCTGCA  
GGTACTGGGTGCCTGTGGAGTACGAGGAGGAGGAAAAGAAGGAAGACAAGGAGGAGAAGGCCGAGGGCAAAGAAG  
GCGAGGAAGCAACCCTGAGGCAGAGGAGAAGCAGCCAGAGGAGGACTTCCAGTGCACTGTACTTCTGGCAGG  
GCCGTGAAGCCTCCAATATGGGCTGGCTCACCTTACCTTACGCTGCAAAAGAAGTTTCAGAGCCTCTTCCCTG  
GGAAGCTGGAGGTGGTACGCATGACGCAGCAGCAGGAGAACCCCAAGTTCTGTCTCCATTTCAAGAGGAAGTTCA  
TCATCCACCGGGCAAGAGGAAGGCGGTCCAGGGCGCCCAACAGCCCAGCCTCTACCAGATCCGCACCAACGGCA  
GCGCCCTCTGCACCCGGTGCATCCAGATCAACACCGACTCCAGCCTCCTCAACTCCGAGTTCTGCTTCTATCTCA  
AGGTTCCCTTTGAGAGTGAGGACAACCAGGGCATCGTGTATGCCTGGGTGGGCGGGCATCAGACCTGACGAAG  
CCAAGTTGGCAGAAGACATCCTGAACACCATGTTTGACACCTCCTACAGCAAGCAGGTTATCAACGAAGGTGAGG  
AGCCTGAGAACTTCTTCTGGGTGGGCATTGGGGGCACAGAAGCCCTATGATGACGATGCCGAGTACATGAAACACA  
CACGTCTCTTCCGGTGTCTCAACGAGAAGGGCTACTTTGCAGTGACTGAGAAATGCTCCGACTTTTGCCAAGATG

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**FIGURE 4719B**

ACCTGGCAGATGATGACATCATGTTGCTAGACAATGGCCAAGAGGTCTACATGTGGGTGGGGACCCAGACTAGCC  
AGGTGGAGATCAAGCTGAGCCTGAAGGCCTGCCAGGTATATATCCAGCACATGCGGTCCAAGGAACATGAGCGGC  
CGCGCCGGCTGCGCCTGGTCCGCAAGGGCAATGAGCAGCACGCCTTTACCCGCTGCTTCCACGCCTGGAGCGCCT  
TCTGCAAGGCCCTGGCCTAAGACAGGCTGGCACAGCCCCAGGCTTGGTGAGGAAGAGGAAGGGGCCTCATCCACT  
GTCTGCTAGCAAAGAATGTACTCAGGTGACACCACCTGCTCCAGCCACGTCCAGTGCCACAGTCCCCAGTAGCCT  
CAAGCAGCACCAATGGGGATGACCCTGACAGGTGCCCTCAGGGGTCTGGGAAATCCAACCTCTCTCCACAGTGTGA  
GTGCACGTGTGAAGCCCCCTCACTCTTCCGCTAGGGATAAAGCAGATGTGGATGCCCTTTAAGAGATATTAAATG  
CTTTTATTTTCAATATT

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**FIGURE 4720**

MEATGVLPFVRGVDLSGNDFKGGYFPENVKAMTSLRWLKLNRGTGLCYLPEELAAALQKLEHLSVSHNNLTTLHGEL  
SSLPSLRAIVARANSKNSGVPDDIFKLDDLSVLDLSHNQLTECPRELENAKNMLVLNLSHNSIDTIPNQLFINL  
TDLLYLDLSENRLSLPPQMRRLVHLQTLVLNGNPLLHAQLRQLPAMTALQTLHLRSTQRTQSNLPTSLEGLSNL  
ADVLDSCNDLTRVPECLYTLPSLRRLNLSSNQITELSLCIDQVHVETLNLNLSRNQLTSLPSAICKLSKLKKLYLN  
SNKLDLFDGLPSGIGKLTNLEEFMAANNLELVPESLCRCPKLRKLVLNKNHLVTLPEAIHFTEIEVLDVRENPN  
LVMPPKPADRAAEWYNIDFSLQNQLRLAGASPATVAAAAAGSGPKDPMARKMRLRRRKDSAQDDQAKQVLKGMS  
DVAQEKNNKQEEASADARAPSGKVRRWDQGLEKPRLDYSEFFTEDVGQLPGLTIWQIENFVPELVVEEAFHGKFYEA  
DCYIVLKTFLDDSGSLNWEIYYWIGGEATLDKKACSAIHAVNLRNLYLGAECRTVREEMGDESEEFLLQVFDNDISY  
IEGGTASGFYTVEDTHYVTRMYRVYGGKNIKLEPVPLKGTSLDPRFVFLLDRLDIYVWRGAQATLSSTTKARLF  
AEKINKNERKGKAEITLLVQGOELPEFWEALGGEPSEIKKHVPEDFWPPQPKLYKVGLGLGYLELPQINYKLSVE  
HKQRPKVELMPRMRLQLSLDTRCVYILDCWSDVFIWLGRKSPRLVRAAALKLQELCGMLHRPRHATVSRSLG  
TEAQVFKAQKFNWDDVLTVDYTRNAEAVLQSPGLSGKVKRDAEKKDQMKADLTALFLPRQPPMSLAEEAEQIMEEW  
NEDLDGMEGFVLEGGKFARLPEEEFGHFYTQDCYVFLCRYWVPVEYEEEEKKEDKEEKAEGKEGEEATAEAEKQ  
PEEDFQCIVYFWQGREASNMGWLTFTFSLQKKFESLFPGLKLEVVRMTQQQENPKFLSHFKRKFIIHRGKRKAVQG  
AQQPSLYQIRTINGSALCTRCIQINTDSSLNSEFCFILKVPFESEDNQGIVYAWVGRASDPDEAKLAEDILNTMF  
DTSYSKQVINEGEEPENFFWVGIGAQKPYDDDAEYMKHTRLFRCSNEKGYFAVTEKCSDFCQDDLADDDIMLLDN  
GQEVYMWVGTQTSQVEIKLSLKACQVYIQHMRSKEHERPRRLRLVRKGNEQHAFTRCFHAWSAFCKALA

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**FIGURE 4721A**

AGACTGTGGAGCATGGCTTCCCCAATCAGCCCAGCGCCCTGGCCTTCGACCCGGAACCTTCGCATCATGGCCATCG  
GCACCAGGTCTGGGGCTGTCAAGATCTATGGTGACCTGGCGTGGAGTTCACAGGCCTGCACCGGGATGCAGCCA  
CTGTACACAGATGCACTTCTTGACCGGCCAGGGCCGCTCCTGTCCCTGCTTGATGACAGCAGTCTGCATCTCT  
GGGAGATTGTCCACCATAATGGCTGTGCCCACCTGGAAGAAGCACTCAGTTTCCAGCTGCCAGCCGGCCCCGGCT  
TTGATGGTGCCAGTGTCTCCGCTCAGCCTTACCCGAGTCACAGTGGTCCCTGCTGGTGGCTGCCGGCGACATAGCAG  
CCCTGGGCACTGAGGGCAGCAGTGTCTTCTTCTGATGTTACCACCTGACCCTGCTCGAGGGGCAGACGCTTG  
CCCCAGGCGAGGTTCTGCGCAGCGTGCCAGACGACTACCGCTGTGGGAAGGCACTGGGCCCCGTGGAGTCACTCC  
AGGGACACCTGCGGGACCCACAAAGATTCTCATTGGCTACAGCCGGGGCCTGCTGGTCACTCTGGAACCAGGCCT  
CGCAGTGTGTGGACCACATCTTCTGGGGAACCAGCAGCTGGAGAGCCTATGCTGGGGGCGTGATAGCAGCACTG  
TGGTCAGCTCACACAGCGATGGCAGCTATGCTGTCTGGTCTGTGGATGCCGGCAGCTTCCCAACGCTGCAGCCCA  
CGGTAGCCACCACACCTTACGGCCCCCTTTCCCTGCAAGGCCATTAAACAAGATTCTGTGGCGGAACCTGTGAATCTG  
GGGGCCACTTTATCATCTTCAGCGGTGGCATGCCCCGTGCCAGCTATGGTGACCGCCACTGTGTAAGTGTGCTTC  
GAGCCGAGACATTGGTGACGCTGGACTTCACTTCCCGCATCATCGACTTCTTCACAGTGCACAGCACACGGCCCCG  
AGGATGAATTTGATGACCCCCAGGCCCTGGCTGTGCTGCTGGAAGAGGAGCTGGTGGTGTGAGACCTGCAGACTC  
CTGGCTGGCCAGCTGTGCCTGCCCCATACCTGGCCCCGCTGCACTCCTCTGCAATCACTTGCTCGGCCCCAGTGG  
CCAGTGTCCCCGCCAAGCTGTGGGCCCCGATTGTGAGCGCTGGCGAGCAGCAGAGCCCCAGCCTGTCTCCAGTG  
CCTTGAGCTGGCCCATCACTGGGGGCGGAAACCTGGCCCAGGAGCCGTACAGCGAGGGCTGCTGCTGACGGGCC  
ATGAGGACGGCACCGTGAGGTTCTGGGATGCCTCGGGTGTGGCGCTGCGGGCCGCTCTATAAGCTGAGCACAGCTG  
GCCTCTTCCAGACAGACTGTGAGCACGCTGACAGCCTGGCCCAGGCTGCCGAGGACGACTGGCCACCCTTCCGCA  
AGGTGGGCTGCTTCGATCCCTACAGTGACGATCCCCGGCTTGGCGTGCAAGGTTGCTCTCTGCAAGTATACAG  
CCCAGATGGTGGTGGCTGGCACTGCAGGCCAGGTGCTGGTACTGGAGCTTAGTGATGTGCCGGTGGAGCAGGCGG  
TCAGCGTGGCCATCATAGACCTCCTCCAGGACCGCGAGGGCTTCACATGGAAGGGCCACGAGCGGCTGAGCCAC  
GCACGGGGCCGCTGCCCTGGCCTGCTGGCTTCCAGCCCCGTGTCTGGTGCAGTGCCTGCCGCCAGCTGCTGTAA  
CCGCTGTCACTCCACACCGAGTGGAGCCTCGTGGCTTTTGGCACCAGTCATGGCTTTGGCCTCTTCGACTACC  
AGCGCAAGAGCCCTGTGCTGGCCAGGTGCACTCTTACCCCCAATGACTCCCTGGCCATGGAGGGTCCGCTCTCCC  
GGGTGAAGTCTCTCAAGAAGTCACTGCGCCAGTCTTTCCGGCGCATTGCAAGAGTCGTGTCTCTGGCAAGAAGC  
GGGCTGCTAATGCCAGCAGCAAGGAAGCCAATGCACAGCTGGCTGAGCAGGCCTGCCCCACGACGTGGAGATGA  
CGCCCGTGACGCGCCGATTGAGCCCCGCTCTGCCGATGACTCCTTGTGCGGTGTGCTGCGTTGCCATATACTTTG  
CCGACACATTCTTCGAGATGGGGCCCCACCAGGGCCCCACCATGTGGGCTGGCACCAACTCAGGCTCTGTGTTCCG  
CCTATGCACTGGAGGTGCCGGCAGCAGCAGTGGGTGGTGAGAAGCGGCCCTGAGCAAGCGGTGGAGGCCGTGCTGG  
GCAAGGAGGTGCAGCTGATGCACCGGGCGCCTGTGGTGGCCATTGCCGTGTTGGACGGGCGTGGCCGCCCACTGC  
CCGAGCCCTACGAGGCCTCACGGGACCTGGCGCAGGCACCTGACATGCAGGCTGGTACGCTGTGCTCATCGCAT  
CTGAGGAGCAGTTCAAGGTGTTCACTGCCCCAAGGTGAGCGCGAAGACCAAGTTCAAGCTGACGGCCCATGAGG  
GCTGTGCTGTGCGCAAGGTGGCACTGGCCACGTTTGCCAGTGTGGCTGCGAGGACTATGCTGAGACCTGCCTGG  
CCTGCCCTACCAACCTGGGTGACGTCCACGCTCTTCTCGGTGCCCTGGCCTGCGGCCCCAGGTGCACTATTCTGCA  
TCCGGAAGGAGGACATCAGCGGCATCGCTTCTGTCGCTCTTTACGCGCCATGGCCAGGGCTTTTACCTGATATCCC  
CATCAGAATTTGAACGCTTCTCCCTAAGTGCCCGGAACATCACAGAGCCGCTCTGCTCTCTGGACATTAACCTGGC  
CCCCGATGCCACCCAGGCCAGTTACAGGATCCGAGAGTCACCCAAGCTGAGCCAGGCTAACGGGACCCCAAGCA  
TCCTGCTGGCCCCACAGAGCCTTGATGGAAGCCCTGATCCAGCCCACAGCATGGGACCTGACACCCCGAGCCAC  
CCGAGGCTGCACTCTCACCCATGTCCATCGACTCAGCCACCAAGTGTGACACCACGCTGGACACGACAGGGGACG  
TCACAGTGAAGATGTGAAGGATTTCTTGGGCTCCTCTGAGGAGTCAGAGAAGAACCTGAGGAACCTGGCAGAAG  
ACGAGGCCACGCTGTGCCATCCTGATCAAATGAGGAAGGCCAGAACTATCCCGACCTCCACCTGCCCTGCTCG  
GAGCTGGAGTGTGATCCCTGGCACCTGCCTGGCCCCCTTAACATAGAACCACGCCTGCTAACCTGTAGGCTCCA  
CTGGGACCTGCTGTCTGTCCCGCTGACCCTGGGGCCCTGGAGCAGCACCAGCCCCAGGGTGTGGGCTGGGACC  
TGGGCCAGAACTGAGCCCTCCTGCAGGCATTTGGCTGCCCTGGGGGCCCACTGCCTAGGGAAGAGGACAGGTGGG  
GCCCAGCACCTGTGCCACCTCCCCCCTCCACACACCATCCTTCCCCCTCACTTTGCAGAGTATTTTCTTTTTT  
TTTTTTTTTCTTAAAGACGGAGTCTTGCTCTGTGCGCCAGGCTGGAGTGCAGTGGCCCCATCTCTGCTCACTGCA  
AGCCCCGCTTCTGGGTTCGCCCATCTTCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCGCCACCACC

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**FIGURE 4721B**

ACGCCCAGCTAATTTTTCTGTATTTTAGTAGAGATGGGGTTTCACCATGTTAGCCAGGATGGTCTCG

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**FIGURE 4722**

MMKFRFRROGADPQREKLKQELFAFNKTVEHGFNPQSALAFDPELRIMAIGTRSGAVKIYGAPGVEFTGLHRDA  
ATVTQMHFLTGGRLLSLLDDSSLHLWEIVHHNGCAHLEEALSFQLPSRPGFDGASAPLSLTRVTVVLLVAASDI  
AALGTEGSSVFFLDVTTLTLEGGQTLAPGEVLRSPDDYRCGKALGPVESLQGHRLDPTKILIGYSRGLLVIWNQ  
ASQCVDHIFLGNQQLESICWGRDSSTVVSSHSDGSYAVWSVDAGSFPTLQPTVATTPYGFFPCKAINKILWRNCE  
SGGHFIIFSGMFRASYGDRHCVSVLRAETLVTLDFTSRIIDFFT VHSTRPEDEFDDPQALAVLLEEELVVDLQ  
TPGWPAVPAPYLAPLHSSAITCSAHVASVPAKLWARIVSAGEQQSPQPVSSALS WPITGGRNLAQEPSQRGLLLT  
GHEDGTVRFWDASGVALRPLYKLSTAGLFQTDCEHADSLAQAAEDDWPPFRKVGCFDPYSDDPRLGVQKVALCKY  
TAQMVVAGTAGQVLVLELSDVPVEQAVSVAIIDLLQDREGFTWKGHERLSPRTGPLPWPAGFQPRVLVQCLPPAA  
VTAVTLHTEWSLVAFGTSHGFGLEDYQKSPVLARCTLHPNDSLAMEGPLSRVKSLLKSLRQSFRIRKSRVSGK  
KRAANASSKEANAQLAEQACPHDVEMTPVQRRIEPRSADDSLSGVVRCLYFADTFLRDGAHHGPTMWAGTNSGSV  
FAYALEVPAAAVGGEKRPEQAVEAVLGKEVQLMHRAPVVAIAVL DGRGRPLPEPYEASRD LAQAPDMQGGHAVLI  
ASEEQFKVFTLPKVSATKFKLTAHEGCRVRKVALATFASVACEDYAETCLACL TNLGDVHVF SVPGLRPQVHYS  
CIRKEDISGIASCVFTRHGQGFYLISPSEFERFSLSARNITEPLCSLDINWPRDATQASYRIRES PKLSQANGTP  
SILLAPQSLDGSPDPAHSMGPDTPPEPPEAALSPMSIDSATSADTTLDTTGDVTVEDVKDFLGSSESESEKNLRNLA  
EDEAHACAILIK

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**FIGURE 4723A**

GAGGATGCAGAGTGGGAGACCTTAAACCGTCTGATCTGGCTGCTAAAGCGAGTGTCTGACGACCACCCATTAAAC  
ACCAGCGAGTAGCGTTTGCTCACGGCTTTAGGATAAGAAGCCTGGAATGGTCCCCCTCCGCCGGGAGAAGAAAG  
CCAGACGGTCACTCTTCCACCTGGCTGGCAGAGCTACCTGTGCGCTCAGGGCCGGCGGTACTATGTCAACACGAC  
CACCAATGAGACCACCTGGGAACGTCCAGCAGTTCTCTGGGATTCCAGCCAGCCCTGGCTCTCACAGGAGCTC  
TCTGCTCCAAACAGTGAATGGATACCACGCATCAGGGACCCAGCGCACCCCTCCAGAGACTGCCACATGAGTGT  
CCGAAAAATCCACCGGTGATTCCCAGAACCTGGGATCCTCATCGCCAAGCAAAAAGCAGAGCAAGGAAAACACCAT  
CACAATAAACTGTGTGACGTTCCCTCACCCAGACACGATGCCGGAACAGCAGCTGCTGAAACCAACCGAGTGGAG  
CTACTGCGACTACTTCTGGGCTGATAAGAAGGACCCCCAAGGCAACGGCACCGTGGCTGGGTTTGAAGTACTGCT  
CCAGAAAACAGCTGAAGGGCAAACAAATGCAGAAGGAAATGTCAGAATTCATCCGGGAAAGGATAAAGATTGAAGA  
AGACTATGCGAAGAACTTAGCTAAGCTCTCTCAGAACTCCTTGGCTTCACAGGAGGAAGGCTCCTTGGGAGAGGC  
GTGGGCCCAGGTGAAGAAGAGCCTGGCGGACGAAGCAGAAGTTACCTCAAGTTCTCTGCCAAGCTTCACAGCGA  
GGTGGAGAAGCCCCTGATGAACTTCCGTGAGAATTCAGAAAGACATGAAGAAGTGCACCACCACATTGCCGA  
CCTTCGCAAGCAGCTCGCCAGCCGCTATGCCTCGGTGGAGAAGGCCCGAAAGCCCTCACAGAGCGGCAGAGAGA  
CCTGGAGATGAAGACCAGCAGCTGGAGATCAAGCTGAGCAACAAGACAGAGGAGGACATCAAGAAGGCGCGGAG  
AAAGTCCACACAGGCTGGAGACGACCTCATGCGCTGTGTGGATCTCTACAACCAGGCCAGTCCAAATGGTTTGA  
AGAGATGGTGACCACCACATTGGAGCTAGAGCGGCTGGAGGTGGAGAGGGTAGAGATGATCCGGCAGCACCTGTG  
CCAGTACACGCAGCTGCGGCATGAAACAGACATGTTCAACCAAAGCACAGTCGAGCCCCTGGATCAGCTGCTTCG  
AAAAGTGGACCCGGCCAAAGACAGGGAGCTGTGGGTGAGAGAGCAAGACGGGCAACATCCGCCCTGTGGACAT  
GGAGATCTAGATGGGCCTGTGCAGCTTCGGGGGGTCTGTCTGGGXGAXXGGGGGGXCTGGGCTCCACCATTGGG  
GCCCATGCCGAGTGGATGCCCCCACCCTCTCTCTGGGCCACTGAGGAGAGGGGAGAGAGCTGGTGATTCCAGA  
AGGGTGACCCGGACAGCCTAGCTGGGGGCTCCCCATATTCCCAGGCCCAGAAAGACAGACCCACAGCCCTGCCCT  
TGTCTCTGAGGCTGAAGACCCCTGACTCCCATGCTGTGCTTGCCGCTCTGAAACAAACAGAGGCTGGAACCTTG  
TGGTCTTGCCGAGTTTTGTAGGGGTCACTGTACATGCTTGTGCCCTGGAAGCCCCAAGGCTCTTCTCCAGCT  
GGCTCCCTTGTCTCCAGGGCTTTGGAGGATCAGGGTAGGGAGGGCTCTGTCTCTAAGCCAGGTGTCAGGATCAGA  
ATCATGGGTAGAAGGTGCCATTACAGCTCACAGCCGCACCCAGAATCCTTTGCAGCCCTCCTTCTTTATTTTTTTC  
CCATTGCATTCTGGGAGTCCACATCTGGCTTTCTCAGCCACTGTTTCATCACCAGGGGTTTTAGGAGGAAGGCTTG  
GCTCCTGTCTTCCCAGACCCACCATGCCTGGAGAGGTGAGGATGGAACCTACCTCATTGCGCAAATTAGCCCCAAA  
TTGAGCGCTGAATCGTGTCCCATGAGATCAGGCGCCATCTGTAAAGTCTCCTCTGGAAATGCCAATCCATCCTTC  
CCCCAGCTGCTTCTCGGGGAGGCCCTGCCCCCACCCTGCCAGCCCTTCCCAGTCTCATTAGAGGAAGCTTTCC  
AAAGTTCTCAGTTATCAAGACCTCATCCAGCTCGTCCAAAGGCTTCAGGGATGGAACAAACCAGCTCGTCTCAG  
AGGCCAGCAAGCTGGGGCTGTCCGCCACGGTGCCTGTGCACCTTTGGGCTGCCCTGGCCCCACTCTCCCGGG  
CCGCCCCACCACAGGCTCTTAATGGGGCCGGGTCACTCTACATGTGAGATGGGTAGGGCAAGTCTTTGCCATCC  
CCCAGATGGCTCTGTCTTCTTGTGTATGGCAGGGCTGGGACTGCTGTCCCTTGTACAGTTTTCTGTCACTGGTGG  
GCACTGGACAGGCATAGCAGACTCTCTTGTGGCCACACTAGGTTGTGCGCTTTCAGGCAGTGTCCCGCCACCTTT  
GCTTCCCGCTCCTTCTGGACATTCCAGAGCCCTGCACCAAACCTTACTTGGTGTCTGCACCTCCTTTCCCTCTC  
TCCATCTTCCAATCCCTGGAAAAGTCTGGTCTGAGTGTGACTTGGGAAGCTTTCAGTGCTGCTGTTTGGCCCAGC  
TCATTACTTTCTCCCTTTCTCTACCACAGCAAACACATTCTCCACCATGTGAGTCTAAAGAGTCTAAAGGGGCCG  
GGAGAAGCATGAGCGAGGGGCAGATTCTAGTCGGGAGCCCATGCCCTGGAAATCCATCTTTCTTCATCTTTCCCA  
TTGACCACTTTGGGTTTGACCTGCACATCTGCAGTGAGGGCAGAATTCAACAAGCACAACTCACTGGTCTTTTCAG  
TCAACGTGCTAGAAACCGATGACTTATTAATCTCTAATTTTTTGGCGCTCTTTCATTGAATGAGAATTGCTTTC  
GTATAGTTACATTAGAAAAATGCCTAATACTAAAGTAAACCAAACGTTGTCACTTTTCTCTTGTCTTGAA  
CATTGCAACCAAAAAGGTGAGCACAAGGCCCTTACCTACGTGAAGACCTCCTGGTAGGATCTGTCCATGGGATG  
GAGAACCACCTCTGTCCAGATCTGGGGTTGGGTGATGACACCAGCTACCAATTTTAGAATATTATTTCTTGGTTTC  
TTTATGAAAAATGGGTGCTAGTGGTAATTGCTTTGTGGCTTAGTAACTACTCTGTGGATGATTTCCAAACATTC  
AAAGCCAATAGCCTTGTTATTAACAAGATATTTTGGTACAATATGGCTCATTGACTTTTCCATTACATCTGAGG  
ATTCCAGAGTCTCTGTTTCATCCCTGGGATAGAGTGAGCCCTCTTGCCTCTTCCAGGGTAGCTCAGGTTGGCCCA  
GTTTGGGCCAGTCCATTTTTGGAGGTCACTCTTTCCCCCTCATCCCTCACCTCCTTCTCTTTACCCCTTCAC  
GTACTTCTTTCTTTCTTCCCTCTGTTATTTCATTCATCAAGCAGGTTAAAGCCATTGTGCTAAGATCTAATCTGA

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**FIGURE 4723B**

GGACACTATAATGGCCCTGTCGTCAGGGAAGCCCGTGATCGCTCGTTTTTCAGGGGTCTTACCGGTCAGCAACCTT  
GGCATTGATACATAGGCACTCTACAGAATTTAAGTTTTTCAGAGGTAAGTCTGTTGTTCTGATTAATCTGCATTCA  
TTCAGCGAATGCTCAAGACAAGCCAGGCATGCTGAGAAGCGGCGCTCTAGTTGTATGTAAGATGGGCATTCTCT  
GCTCTCCTCTATTCTCCATGTCGACTGAGAAGAGTATAATAAGAACATTGTACCTCTCCACACTTAACCCTCTG  
GGATTCTTTATTATAATATAAAACCACCGTCGTGAGGCATTTACCTGTTGGATGGAAGGTAGACAGCAACAAGATT  
TTAATCACCTGGTCACCAGACCCTCACGGCCCATATCCAATTCGAATTTCAGAAATTTCTCTGTTTGCTTTAAAT  
AACTCTTTACAAATAAGGGTCGGGCACGGTGGCTCACGCCTGTAATCCCAGCTCTTTGGGAGGCCGAGGTGGGCA  
GATCACGAGGTCAGGAGATCGAGACCATCCTGGCTAACATGGTGAAACCCCGTCTCTGCTAAAAATACAAAAAT  
TAGCCAGATGTGGTGGTGACACCTGTAGTCCCAACTATTCCGGCAGGCTGAGGCAGTAGAATCGCTTGAACCTGG  
GAGGCGGAGATTGCAGTGAACCAAGATCGGGCCACTGCACTCCAGCTTGGGTGACAGAGCAAGACTCCATCTCAA  
AAAAATTATAAAATAACTCTTTGCAATAGGAAAGTGAAGCTCAAGGGTAACCAGTGAGGCTATGAAATTGCCAGT  
GAATTAAGACCAGGGCTAGAGTCAACAGTCCAGAACCCCTATCCGTATGAACAGGGGCCCGTTTCTGGTTGAAAT  
CAAGGTTAGGATGCAACTGAGAAAATAAAAGACTGCACTTTGGAGAGGCAAGCACGCTATCCGGGTTGTTGTTTT  
GTTTTATGCTTTGGTGCTTAGGTGAGGACTTAGCTGGGTTTATTCAAAGTGGGCGGGTCTGGGCTATTCTTGAGA  
ATGTCCCTTCCATTTCTGAGAACAAGTCAGCCCTTCTACCTGCCTCCACCCAGGAGACTGATGCACAAGATCTG  
TTTGTGAAAGCCTGATTTAAAAAGAAAAAAATTCCTTAAGCCAAATGGTGTTCAGTTGGTTGCTGTGACA  
ACCTCCAGGAAGAGCCACTTGTACCCTCTATTCTTTCTAGTGCTTTTCAGTCAGTGGAACACATAGGCCCTTG  
GACCGTGGGGATGGCGGCCCTGAGATTCTGTCACTGGGACCACCTGGGCCTCCTTTCTACCTCCACTCAGCACC  
CTGTTGGCCAAGGAGAATTTCTGCGGTGGGAGGCAGTGCTCTGCTAGTCAGGATTGATAAACAGCTGGGCACACC  
GAAACAGTGTACCAACGAATTCACCAACCAGGGGTTTCTTTCCCTACCCTTTGTGAAAACCAATCAATTACTAGA  
TGAGTGGATGGATGCAGAAAAATCTGGGCTGAGCCAAAGTCCCTTTTGAAATACAAGCCATAACATTCGAAGGA  
CATCAGCGACCTTGGCTTGTTFAGGTGATTTTACTTCCAGCTGCAGGTAGTCTTGACAAGGAGTGTTTAAACAGA  
AGGCTCAAGATGCATTCTTGTGTAGGTGCGGAGAGAGCACTTCTAATGTTAAGTGGGGTACAGATCAGCTGCCCC  
CCCACGTAGCCTGGACATCGTCTTATCCCCATAATCCTTGCCATCCCTACAAGGCCCATCGCCACCACCTTTTCC  
CAGGTTTTATTGAGGTATGATTGACATCCAGTAAATTCACCCTTTGGAAATATACAGCTCTGTGAATTTTGACAA  
ATTTAGTGTCTTGTGACCATCACCAAGATCAACCTGTTTTTAACCCTCCAAAAAATTCCTTCTCCTGCCCTCTT  
TCCCTGGCAACCCTGATTGATTATCTGATCCTATAATTTGCCTTTTCTAGAATGTATATAAATGGAGTCACAC  
TGATGTGCTCTTTTGTGCTGGCATCTTTCCCTCAGCTTAATGCTTTTGTAGTCATTATGATGTGTGCGTGTGGT  
TTGTTCTTCTCCTTGCCGGGAAGTATTTCAATGTCATGGGCGTACTACTCTGCTTCTTTATTTTACACTGAGCC  
TTTCGCCCTGGAAGTTCTTGGCCAGGGTCTTCAACTTGTGTTGACGACCACTTCCAGCTTGTGCTTCTCTCAG  
TTCCCCAGGCTCCTCCTCCAAATGCCAGCTGTGCCCCACAAGCTGTTCTTAGGGCTCACACTCGCCTTTTGGCGCG  
TGGTGGGTTTTTGGTAGTGCAGAAAGAAATCCAGGGATGGGAGGGGAAGGGACGGATGGGTGCTCAATTGCTGCTC  
ACGCTGCTGCAACCTGAAGCTTGCATCTCAGCCAGCAGATCTGCTCCCTTCTGGGACCCAGGCTTCAGTGTAC  
ACGGTCTTGGCTATGTATTGGGCGTTGGAGGCTTTGAAAGGCGAGCAGAAGCAGCATGGACAAGAAGGCTGGGG  
CTGGCCCTGGGGCTCATCATGATGCTTTCCCTGGATCTGTTGCTTCATCTGCAAGCTGAGGGTGTGTTCTAGAT  
GAGTGTCTCAGGCCACCGGCAACTGCATGTACCTCCTCCCTTCTCATTCCAATGATGTACCCTGTACACGTGT  
TCATGCTGTGTCTGGCTCTCATCTGCACAATCGTGCATAGAATTGCCCTCAAGTCCCTGGTGAGAGAGATGCCGTGG  
TACTTTTCCATTTAGATTCAAATGGAGCTAAATTAAGAGTTTTATGAGCTGTTAAGAATGAGGTAGTTTCTCCT  
AGGACCCCCCAAAGACAGTGCAAGTAATGACCGTTTGGATCTCATTTCGTCGATCTTTGATAGTATGTTCTGGAGT  
CTACTCCCCAGGAGCCAGGACAGGCGTGAAGATGGAGTCTTGTGTCAGCTGGAGCCTTGCCCTAGCTGGTGATCA  
CACAGCCTGGCCTGTACCTGCACCCCACTGGATGGTGGTACATGGTGGCAGGGACAGGACCACACCCAGTTAAGG  
CCAGACCAGGCTGAGTGTGACCCCTGAGGTAAACACTCCACTAAGCTGTGTCTTGTTCATGCCCCCTGCTCAGTG  
AAAGGTGAGTCCCAGACAGTTGGGTACCTCTCTATGCGAACCAGAGACATTTCTGGATCCAGGCCAGGTGAAG  
ATTAGGGCCAGGAAGCCTGAGCCCCCGGGCCTCAAGGTAGGGAGCCGAAGAGGCTGCCAGGACTCTGCTGGGTT  
GAAATTTGCCGGGGAGGACTCTTGTCTCCCCCTCAGGAGTATTTTTGTTGAGGCTTTCTGGAGGTGAAGAAGCA  
ATTCCCATTCGACAGGTTAGAGCGAGAATCAGACAGAGGGCAAAAACCAATTCGCTTCTCCCCACGTTCTAAAT  
GCTGGGGCATGGCTGTGAGGAGGCTTCTGGGAGGTGTCTCTGGGGGTGGGGTGAGGTGGGGCGATGGCCTTT  
GGAGATTGCGTGTGGTGTTCAGGACTGTTCTTGGTGTGTTGAGGGAACTTTAGTGGGATTGCAGTGGAATGTAA



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**FIGURE 4723C**

GGTCAGGGCACGTGGGTGCTCTCTCGGGGTGGGGTGAAGTGGGAGACCTAGAGGGAAAGCCTGCTATGCAGGGGGA  
GAGCACAGGACTGGCCCTGCTCTGCGGCCTCCTTTGTCCCATAACCTGAAGTTAAGTCACATCCCCTGTCGGGAC  
CTCCGTGCACTCATCTGTCAAGTGGGGGCGCTTCCCTTCCAGCATCACCTGCAGCAGACGGGCTCTCGGGAGTCG  
TGGGTTCCAGGCAGCTGTGTGGACCCAGGGACAGACATTCAAAGGGACGCCAGCCATCCTTAGTGACAGGGGCCC  
CAACTTAGCATCCCCTTCCCTTCCGTTAGGAAGGAGATGACCGGAAGCAACCCCTTCACAGACACGAGCACATCGG  
CAAACCCATGAAAGTGGAATTTTCTAACAAAATAAACTTGCTTGTTTGATCTGTTTTCTGTAACTTTTGCTAAA  
TACTTTATACATTTTTCATGTTAAAGAGCCGTGTCTCCCGCCAGCACTCCTCACCCCGGTATGAATGTGTTTCCT  
CCACATTGTATATCCTTCCACCCCTCTGGCTGCCTAGATCAGTAAATAAAATTGATGTAATATAATTTATAAGTAA  
CACTGTTGAAACCCCTGATCCCAGTGGAGGCTGTAACCCACCTGCCCCCGCACCCACCCCTGACCCCTGTTACCG  
CATTTGTGTGTATTAATGCTGAAGAATTAAATGTTTAAAGAGTTTAAATTTTGAAGGCGTTTGCTATATACAGTT  
GTCCTGCATTATTATAAAGAGTTTTTCAGGAAGTT

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**FIGURE 4724**

TCTTCCACAGGAGGCCTACACGCCGCCGCTTGCTGCTGCTGCCATGTCTCTAGTGATCCCTGAAAAGTTCCAGCAT  
ATTTTGCGAGTACTCAACACCAACATCGATGGGCGGTGGAAAATAGCCTTTGCCATCACTGCCATTAAGGGTGTG  
GGCCGAAGATATGCTCATGTGGTATTGAGGAAAGCAGACATTGACCTCACCAAGAGGGCGGGAGAGCTCATTGAG  
GATGAGGTGGAACGTGTGGTCACCATTATGCAGAATCCACGCCAGTACAAGATCCCCGACTGGTTTTTGAACAGA  
CAGAAGGATGTAAAGGATGGAAAATATAACCAGGTCCTGGCCAACGGTCTGGACAACGAGCTCCGTGAAGACCTG  
GAGCGACTGAAGAATATTCGGGCCCATAGAGGGCTGAGTCACTTCTGGGGCCTTCGTGTCCGAGGCCAGCACACC  
AAGACCACTGGCCGCTGTGGCCGCACCGTAGGTGTGTCCAAGAAGAAATAAGTCTGTAGGCCTTGTTTGTTAATA  
AATAGTTTATATACC

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**FIGURE 4725**

GCTGTCCTGAGCCTGAGTACTCTAGCTGCCTTGTGCGCCATCGCATCTGGCTGCCATCCAGCGCCAGCACACAGTA  
ATGAGTGGCCGAGCTTCCTCTGGGAGGGAGGAAACAGTTAAATCTTGCAGCAGCTGCAATCATCTAGGCGTGTT  
TCTCTTGTCTGACTTGGGCTGCACAGATCCTGGGCCAAGGGACAGAAGAAAGACAGCCCTAGGAGCAGAGCCTCCC  
AGATGGCTGAGTTGGATCTAATGGCTCCAGGGCCACTGCCCAGGGCCACTGCTCAGCCCCCAGCCCCCTCTCAGCC  
CAGACTCTGGGTACCCAGCCCAGATTCTGGGTGAGCCAGCCAGTGGGAAGAAGAGGACGTGGGCTCCTCGGAGA  
AGCTTGGCAGGGAGACGGAGGAACAGGACAGCGACTCTGCAGAGCAGGGGGATCCTGCTGGTGAGGGGAAAGAGG  
TCCTGTGTGACTTCTGCCTTGATGACACCAGAAGAGTGAAGGCAGTGAAGTCTGTCTAACCTGCATGGTGAATT  
ACTGTGAAGAGCACTTGCAGCCGCATCAGGTGAACATCAAAGTCAAAGCCACCTGCTGACCGAGCCAGTGAAGG  
ACCACAACTGGCGATACTGCCCTGCCACCACAGCCCACTGTCTGCTTTCTGCTGCCCTGATCAGCAGTGCATCT  
GCCAGGACTGTTGCCAGGAGCACAGTGGCCACACCATAGTCTCCCTGGATGCAGCCCGCAGGGACAAGGAGGCTG  
AACTCCAGTGCACCCAGTTAGACTTGGAGCGGAAACTCAAGTTGAATGAAAATGCCATCTCCAGGCTCCAGGCTA  
ACCAAAAGTCTGTTCTGGTGTCGGTGTCAGAGGTCAAAGCGGTGGCTGAAAATGCAGTTTGGGGAACTCCTTGCTG  
CTGTGAGGAAGGCCCAGGCCAATGTGATGCTCTTCTTAGAGGAGAAGGAGCAAGCTGCGCTGAGCCAGGCCAACG  
GTATCAAGGCCACCTGGAGTACAGGAGTCCGAGATGGAGAAGAGCAAGCAGGAGCTGGAGAGGATGGCGGCCA  
TCAGCAACACTGTCCAGTTCTTGGAGGAGTACTGCAAGTTTAAAGAACTGAAGACATCACCTTCCCTAGTGTTT  
ACGTAGGGCTGAAGGATAAACTCTCGGGCATCCGCAAAGTTATCACGGAATCCACTGTACACTTAATCCAGTTGC  
TGGAGAACTATAAGAAAAAGCTCCAGGAGTTTCCAAGGAAGAGGAGTATGACATCAGAACTCAAGTGTCTGCCG  
TTGTTTCAGCGCAAATATTGGACTTCAAACCTGAGCCAGCACCAGGGAACAGTTCTTCCAATATGCGTATGACA  
TCACGTTTGACCCGGACACAGCACACAAGTATCTCCGGCTGCAGGAGGAGAACC GCAAGGTCACCAACACCACGC  
CCTGGGAGCATCCCTACCCGGACCTCCCCAGCAGGTTCTGCACTGGCGGCAGGTGCTGTCCAGCAGAGTCTGT  
ACCTGCACAGGTACTATTTTGAGGTGGAGATCTTCGGGGCAGGCACCTATGTTGGCCTGACCTGCAAAGGCATCG  
ACCGGAAAGGGGAGGAGCGCAACAGTTGCATTTCCGGAACAACCTCTCCTGGAGCCTCCAATGGAACGGGAAGG  
AGTTCACGGCCTGGTACAGTGACATGGAGACCCCACTCAAAGCTGGCCCTTTCGGGAGGCTCGGGGTCTATATCG  
ACTTCCCGGGAGGGATCCTTTCTTCTATGGCGTAGAGTATGATACCATGACTCTGGTTTACAAGTTTGCCTGCA  
AATTTTCAGAACAGTCTATGCTGCCTTCTGGCTTTCCAAGAAGGAAAACGCCATCCGGATTGTAGATCTGGGAG  
AGGAACCCGAGAAGCCAGCACCGTCCTTGGGGGTGACTGCTCCCTAGACTCCAGGAGCCATATCCCAGACCTTTG  
CCAGCTACAGTGATGGGATTTGCATTTTAGGGTGATTTGTGGGCAGAAATAACTGCTGATGGTAGCTGGCTTTTG  
AAATCCTATGGGGTCTCTGAATGAAAACATTCTCCAGCTGCTCTCTTTTGCTCCATATGGTGCTGTTCTCTATGT  
GTTTGCAGTAATTTCTTTTTTTTTTTTTTGTAGACGGAGTCTCGCACTGTTGCCCAGGCTGGAGAGCAGTGGCGGA  
TCTTGGCTCACTGCAAGCTCCGCCTCCCGAGTTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGATTA  
CAGGTGCCCTGCCACCACACCCAGCTAATGTTTTGTATTTTAGTAGAGATGGGGTTTACCATGTTGGCCAGGCA  
GATCTCAAACCTCTGACCTCGTGATGCACCCACCTCGGCCTCCCAAAGTGTGGGATTACATGCGTGAGCCACTG  
CGCCCTGCCTGTTTGTAGTAATTTTAGGCACCAAATCTCCCTCATCTTCTAGTGCCATTCTCCTCTCTGTTTCA  
GTAAATGTCACACTGTGCCCAGAATGGATGACCAGGAACCTTAAAGAGTGGCTGAAAAGATTGCAGAGTTATCAT  
AATAAATTGCTAACTTGCGT

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**FIGURE 4726**

MAELDLMAPGGLPRATAQPPAPLSPDSGSPSPDSGSASPVEEEDVGSSEKLGRETEEQDSDSAEOGDPAGEGKEV  
LCDFCLDDTRRVKAVKSCLTVMVNYCEEHLQPHQVNIKLQSHLLTEPVKDNWRYCPAHHSPLSAFCCPDQQCIC  
QDCCQEHSGHTIVSLDAARRDKEAELQCTQLDLERKLKLNENAI SRLQANQKSVLVSVEVKAVAEMQFGELLAA  
VRKAQANVMLFLEEKEQAALSQANGIKAHLEYRSAEMEKSQELERMAAISNTVQFLEEYCKFKNTEDITFPSVY  
VGLKDKLSGIRKVITESTVHLIQLLENYKKKLQEFSEEEYDIRTQVSAVVQRKYWTSKPEPSTREQFLQYAYDI  
TFDPDTAHKYLRLQEENRKVTNTTPWEHPYPDLPSRFLHWRQVLSQQSLYLHRYFFEVEIFGAGTYVGLTCKGID  
RKGEERNSCISGNNFSWSLQWNGKEFTAWYSDMETPLKAGPFRRLGVYIDFPGGILSFYGYEYDTMTLVHKFACK  
FSEPVYAAFWSKKENAIRIVDLGEEPEKPAPSLGVTAP

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**FIGURE 4727**

GGCGGACCGAAGAACGCAGGAAGGGGGCCGGGGGGACCCGCCCCGGCCGGCCGCAGCCATGAACTCCAACGTGG  
AGAAACTGCCCCCGCACATCATCCGCCTGGTGTACAAGGAGGTGACGACACTGACCGCAGACCCACCCGATGGCA  
TCAAGGTCTTTCCCAACGAGGAGGACCTCACCGACCTCCAGGTCACCATCGAGGGCCCTGAAGGGACCCCATATG  
CTGGAGGTCTGTTCCGCATGAAACTCCTGCTGGGGAAGGACTTCCCTGCCTCCCCACCCAAGGGCTACTTCCTGA  
CCAAGATCTTCCACCCGAACGTGGGCGCCAATGGCGAGATCTGCGTCAACGTGCTCAAGAGGGACTGGACGGCTG  
AGCTGGGCATCCGACACGTACTGCTGACCATCAGGTGCCTGCTGATCCACCCTAACCCCGAGTCTGCACTCAACG  
AGGAGGCGGGCCGCTGCTCTTGGAGAACTCCGAGGAGTATGCGGCTCGGGCCCGTCTGCTCACAGAGATCCACG  
GGGCGCCGGCGGGCCCAGCGGCAGGGCCGAAGCCGGGCGGGCCCTGGCCAGTGGCACTGCAGCTTCCCTCCACCG  
ACCCTGGGGCCCCAGGGGGCTGGGAGGGGCTGAGGGTCCCATGGCCAAGAAGCATGCTGGCGAGCGCGATAAGA  
AGCTGGCGGCCAAGAAAAAGACGGACAAGAAGCGGGCGCTGCGGCGGCTGTAGTGGGCTCTCTTCCCTCCAC  
CGTGACCCCAACCTCTCCTGTCCCTCCCTCCAACCTCTGTCTCTAAGTTATTTAAATTATGGCTGGGGTCGGGA  
GGGTACAGGGGGCACTGGGACCTGGATTTGTTTTTCTAAATAAAGTTGGAAAAGCA

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**FIGURE 4728**

GGGCGGTTGGCTTTGTTGGGTGAGCTTGTTCGTGTCCTGTGGGTGGACGTGGTTGGTGATTGGCAGGATCCTGG  
TATCCGCTAACAGGTCAAAATGCAGATCTTCGTGAAAACCCTTACCGGCAAGACCATCACCCCTTGAGGTGGAGCC  
CAGTGACACCATCGAAAATGTGAAGGCCAAGATCCAGGATAAGGAAGGCATTCCCCCGACCAGCAGAGGCTCAT  
CTTTGCAGGCAAGCAGCTGGAAGATGGCCGTACTCTTTCTGACTACAACATCCAGAAGGAGTCGACCCCTGCACCT  
GGTCCTGCGTCTGAGAGGTGGTATGCAGATCTTCGTGAAGACCCTGACCGGCAAGACCATCACCCCTGGAAGTGGA  
GCCCAGTGACACCATCGAAAATGTGAAGGCCAAGATCCAGGATAAAGAAGGCATCCCTCCCGACCAGCAGAGGCT  
CATCTTTGCAGGCAAGCAGCTGGAAGATGGCCGCACTCTTTCTGACTACAACATCCAGAAGGAGTCGACCCCTGCA  
CCTGGTCCTGCGTCTGAGAGGTGGTATGCAGATCTTCGTGAAGACCCTGACCGGCAAGACCATCACTCTGGAAGT  
GGAGCCCAGTGACACCATCGAAAATGTGAAGGCCAAGATCCAAGATAAAGAAGGCATCCCTCCCGACCAGCAGAG  
GCTCATCTTTGCAGGCAAGCAGCTGGAAGATGGCCGCACTCTTTCTGACTACAACATCCAGAAGGAGTCGACCCCT  
GCACCTGGTCCTGCGCCTGAGGGGTGGCTGTAAATCTTCAGTCATGGCATTTCGCAGTGGCCAGTGATGGCATT  
CTCTGCACTATAGCCATTTGCCCACTTAAGTTTAGAAATTACAAGTTTCAGTAATAGCTGAACCTGTTCAAAA  
TGTTAATAAAGGTTTCGTTGCATGGTA

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**FIGURE 4729**

MQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRRLRG  
GMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRRLR  
GGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRRL  
RGGC

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**FIGURE 4730**

AGGTAGGCTCTCTAGGAATCTGGGAGTAGTAGCTGGGGGGCAAGAGCAAATAAAGAGCTCGAGCTTCTGTGGTCT  
CTGGGGAGATGTTCCCGGAAGCCTGTCTAGAGGGCGGAGGGCAGCTGTTGAGATGGCGTGGCTCCCCGGCTCCT  
GCGCCCGCGTGGCTTTCGCGGCGGGCGCTGCGGCCCGGTATTGGACAGCCTGGCAGGGCAGCGCGGGGCCGAATC  
CGGCTGCCGTGGCTGAGGCTCATGGATCACTCTTTTGTGGTAGGGCCACATCTGCCAGAGCCTGGAGTCTGCGAA  
GGCCGGGACCCGGTTCCCCGGCCACAGTGGGGGTGTGCAAACCCGAGAGAACTGGATTGCGTACCCACTGCAGA  
GTGCTGAAGACGGGGTAGCCACGAGGTTGCAAATTCGTGAAGAATCAGCATCATGTTTGGCAGCTGAGTATTGGA  
GCCAGGAGCCTGCCATGAGGTTTTGAGAACAGAGTGCTGTTTTAGAGCTGGCAGCAGCATCTCAGCCCAAGAGAA  
GGTTATATTCCAGAGGATGTCAGTCCCAAGGACCAGTAGCTGCCATCAGTTTGGATTCTGAAAATAACTGGCA  
TCAACACTGGGTGTAGAAACATGCTTGCCTTATGTATCAGAGGACATGCTCAGCAGATCCAAGAGATATATTGG  
CAACTTTTTCTAGAAAAGGCACATTGGGTATCATTACATTCTTGAGT



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**FIGURE 4731**

MFPGSLSRGRRRAAVEMAWLPGSCARVAFAGAAARYWTAWQGSAGPNPAVAEAHGSLFCGRATSARAWSLRRPG  
PGSPAHSGGVQTRENWIAYPLQSAEDGVATRLQIREESASCLAEYWSQEPAMRF

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**FIGURE 4732**

TCCAGCCCTTCTCCTGTGTGCCTGCCTCCTGCCGCCGCCACCA**ATGA**ACCACCTCCATCCGCCAGTTCACCTCCTCC  
AGCTCCATCAAGGGCTCCTCTGGCCTGGGGGGCGGCTCGTCCCGCACCTCCTGCCAGCTGTCTGGCGGCCTGGGT  
GCCGGCTCCTGCAGGCCGGGATCTGCTGGTGGCCTGGGCAGCGCCCTCGGGGGTAGCAGCTACTCCAGCTGCTAC  
AGCTTTGGCTCTGGCGGTGGCTATGGCAGCAGCAGCTTTGAGGGCGTTGATGGGCTGCTGGTTCGGAGGTGAGAAG  
GCCACCATGCAGAACCTCAATGACCGCCTGGCCTCCTACCTGGACAAGGTGCGTGCCCTGGAGGAGGCCGACACT  
GAGCTGGAGGTAAAGATCCGTGACTGGTACCAGAGGCAGGCCCCGGGGCCCGCCCGTGACTACAGCCAGTACTAC  
AGGATAATCGAGGAGCTGCAGAACAAGATCCTCACAGCCACCGTGGACAATGCCAACATCCTGCTACATATTGAC  
AATGCCCATCTGGCTGCTGCTGACTTCCGCACCAAGTTTGAGACAGAGCAGGCCCTGTGCCTGAGTGTGGAGGCC  
GACATCAATGGCCCGTGCCAGGGTGTGGATGAGCTGACCCTGGCCAGAGCCGACCTGGAGATGCACATTGAGAAC  
CTCAAGGAGGAGCTGGCCTACCTGAAGAAGAACCACGAGGAGGAGATGAACGCCCCGCGAGGCCAGGTGGGCGGT  
GAGATCAATGTGGAGATGGGCGCTGCCCCAGGTGTGGACCTGAGCCGCATCCTGAATGAGATGCGTGAGCAGTAT  
GAGAAGATGGCAGAGAAGAACCGCAAGGATGCCGAGGATTGGTTCTTCAGCAAGACAGAGGAGCTGAACCGCGAG  
GTGGCTACCAACAGTGAGCTGGTCCAGAGCGGCAAGAGCGAGATTTCCGAGCTCCGGTGCACCATGCAGGCCTTG  
GAGATCGAGCTGCAGTCCCAGCTCAGCATGAAAGCATCCCTGGAGGGCAACCTGGCGGAGACAGAGAACCGCTAC  
TGCATGCAGCTGTCCAGATCCAGGGGCTGATCGGCAGTGTGGAGGAGCGGCTGGCCCAGCTTCTCTGCGAGATG  
GAGCAGCAGAACCAGGAGTACAAGATCCTCCTGGACATGAAGATGCGGCTGGAGCTGGAGATCACCACTACCAC  
CGCCTGCTGGAGGGCGAGGATGCCACCTGACTCAGTACAAGAAAGAACCAGGTGACCACCTGTCAGGTGCCTACC  
ATTGTGGAAGAGGTCCAGGATGGTAAGGTCATCTCCTCCCGCGAGCAGGTCCGCCAGACCACCGCT**GA**GCACTC  
AGCTTTCCTGGCCGGCCCCCAGGAGGCAGGGAGGCAGCGGTCCCATCTGCCCCGCGGTCTCCGGCCTCTCCACC  
CTCAGCCCCCTGCTTCAGTCCCTTCCCCATGCTTCCCTGCGTGATGACAATAAAGCTCGTTGACTCAGCT

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**FIGURE 4733**

MTTSIRQFTSSSSIKGSSGLGGGSSRTSCQLSGGLGAGSCRPGSAGGLGSALGGSSYSSCYSGGGGYGSSSFE  
GVDGLLVGGEKATMQNLNDRLASYLDKVRAL EADTELEVKIRDWYQRQAPGPARDYSQYYRIIEELQNKILTAT  
VDNANILLHIDNAHLAAADFRTKFETEALCLSVEADINGPCRVLDELTLARADLEMHIENLKEELAYLKKNHEE  
EMNAPRGQVGGEINVEMGAAPGVDL SRILNEMREQYKMAEKNRKDAEDWFFSKTEELNREVATNSELVQSGKSE  
ISELRCTMQALEIELOSQLSMKASLEG NLAETENRYCMQLSQIQGLIGSVEERLAQLLCEMEQQNQEYKILLDMK  
MRLELEITTYHRLLEGEDAHLTQYKKEPVTTQVPTIVEEVQDGKVISSREQVRQTTR

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**FIGURE 4734**

CTTTCCGCTCGGCTGTTTTCTGCTCAGGAGCCGCAGGGCCGTAGGCAGCCATGACGCCCAGCCGGAATGGCATG  
GTCTTGAAGCCCCACTTCCACAAGGACTGGCAGCGGCGCGTGGCCACGTGGTTCAACCAGCCGGCCCCGGAAGATC  
CGCAGACGTAAGGCCCGGCAAGCCAAGGCGCGCCGCATCGCCCCGCGCCCCGCGTCGGGGCCCATCCGGCCCATC  
GTGTGCTGCCCCACGGTTTCGGTACCACACGAAGGTGCGCGCCGGCCGCGGCTTCAATCTGGAGGAGCTCAGGGTG  
GCCGGCATTACACAAGAAGGTGGCCCCGGACCATCGGCATTTCTGTGGATCCGAGGAGGCGGAACAAGTCCACGGAG  
TCCCTGCAGGCGAACGTGCAGCGGCTGAAGGAGTACCGCTCCAACTCATCCTCTTCCCCAGGAAGCCCTCGGCC  
CCCAAGAAGGGAGACAGTTCTGCTGAAGAACTGAACTGGCCACCCAGCTGACCGGACCGGTCATGCCCATCCGG  
AATGTCTATAAGAAGGAGAAAGCTCGAGTGATCACTGAGGAAGAGAAGAATTTCAAAGCCTTCGCTAGTCTCCGT  
ATGGCCCGTGCCAACGCCCCGGCTCTTCGGCATAACGGCAAAAAGAGCCAAGGAAGCCGCAGAACAGGATGTTGAA  
AAGAAAAAATAAGCCCTCCTGGGGACTTGGAAT

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**FIGURE 4735**

GAATGGCATGGTCTTGAAGCCCCACTTCCACAAGGACTGGCAGCGGCGCGTGGCCACGTGGTTCAACCAGCCGGC  
CCGGAAGATCCGCAGACGTAAGGCCCGGCAAGCCAAGGCGCGCCGCATCGCCCCGCGCCCCGCGTCGGGGCCCAT  
CCGGCCCATCGTGTGCTGCCCCACGGTTCGGTACCACACGAAGGTGCGCGCCGGCCGCGGCTTCAATCTGGAGGA  
GCTCAGGGTGGCCGGCATTACAAGAAGGTGGCCCGGACCATCGGCATTTCTGTGGATCCGAGGAGGCGGAACCA  
AACTCATCCTCTTCCCCAGGAAGCCCTCGGCCCCAAGAAGGGAGACAGTTCTGCTGAAGAAGTGAAGTGGCCA  
CCCAGCTGACCGGACCGGTCATGCCCATCCGGAATGTCTATAAGAAGGAGAAAAGCTCGAGTGATCACTGAGGAAG  
AGAAGAATTTCAAAGCCTTCGCTAGTCTCCGTATGGCCCGTGCCAACGCCCGGCTCTTCGGCATACT

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**FIGURE 4736**

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKGPASQGAPHRSAF RVGSHPAHRALPHGSVPHEGARRPR  
LQPGGAPGWPAFTRRWPGPSAFLWIQTHPLPQEALGPQEGRQFC

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**FIGURE 4737**

GTAGAGTGC GCGACGCTTTTGGCGACCCGACCTCTGGCTAACCTACCCCCGGAGCCATGGCCTCTGCTGGGGTGG  
CAGCCGGGCGACAGGCGGAGGATGTATTGCCGCCAACGTCCGACCAGCCGCTGCCTGACACCAAGCCGCTGCCGC  
CTCCTCAGCCGCCGCCGGTCCCTGCGCCTCAACCGCAGCAGTCGCCGGCGCCACGGCCTCAGTCACCTGCCCGCG  
CGAGGGAGGAAGAGAACTACTCCTTTTACCTTTGGTTTACAACATCATCAAATGCATGGACAAGGACAGCCCCAG  
AGGTCCACCAGGACCTGAACGCCCTCAAAAGCAAGTTCCAGGAGATGCGCAAGCTCATCAGCACCATGCCCGGCA  
TCCACCTGAGCCCCGAACAGCAGCAGCAGCAGCTGCAGAGCCTCCGGGAGCAAGTCAGGACCAAGAATGAGCTTC  
TGCAAAAGTACAAGAGCCTCTGCATGTTTCAAATCCCCAAGGAGTAGAGTGAGGCTGACTTCCTTAGAAAGAGGG  
GGAAGCCAATGGCCTGTCTCCCCACTACCATCCCCAAACGCTCCTTGGGGCGTGTTTCTGTGGACCCCAAGCTCA  
GCTCGTCAAGCTGCAGGGGCGGGGCTCCTGTGCTGCTGCGCGCGCTTCGCCTGTGCGGGAGCCAGCGCAGAGCTT  
GGCTGCGCGGGGGGTTTCTCGTGTAGATCCATATGTCTAGATGCATAATAACTGGAGTGCTGTGTTGGAAGTC  
AGAATGCTCCTGGAGGCTGCAGAGGGGGTGGAGGACTCTCCCCTGCCTCTGAGGGAGGGGGCCATCTGCTGCGCCC  
GGCCCCACTGACAGATCTGAAGAGCACAGTAGGAAGGGAGGCGGCTCCTCTTTGCTTCCTTCCCTCTCTCTCCTC  
CCACCCCCATAGGATCAGTGTGTACCAGGTACACATTGTTCTGTAAACAGCAGCTTCTTGAAACATTTGCATAG  
AATTCACTGGACGAATTAAGCCTGCACTCATATGGCATAGAATTGTGAGAGAATGTTTTGAAAGGCCAGAGGGTG  
GCCTTTTTTCCCCAAACAGTTTGGTTTCTTTTATGTTTGAGCCAGTGAAGGGAACACGCTTTGGGGGCTTCAGCC  
TAGAGCCCTGCCAGGCAGCCCCCTGGCTCCAGGTTCCCTGCCTCCTAGCGCTCTCCTCGCCTTCAGCTCTTGCTCC  
CTTCTCGTTTCATCACCTCAGTCAGTGCCCAAGAGTGGCCAAACCGCTTCACATCTGCAGTGCTTCCCCAGGGT  
TGACAAGGGGCGCTCCTTTCCACACAGGCCAGAAGAGGTCTTCAGGCGAACCGACCTTCCCCCTTCTGGCATTTT  
AGATTCCCCTTGCTCTGGTTAAAAGGTCTTTCCCTCGTGGCCTTTGCACTTGCGGCAGCAACGTGTACTACTG  
CAGAAGGGTTTCAATATGCACCTTGTGTTGAGAGAGAGGCAACCCTGGGGGCCAGTTCAGGTGGTCCCCAACCATA  
GGCTAGGTCTGAAAGTTACACAGCCAAGTTTGAGCTCTTAAAAGTTGATGAACAGCCTCATTTCCCCAGCTTCCC  
TGATTTCTTCCAGATGGGACGTTTTATTTGTGTGCTCTCCCTTGACTGTCAGATTGAAGTAAGAGCAGTTCTCTC  
CGTTGCCTCTCGAGGAGGAGGTGCGAAGTCTGGAGTATTGTTTGGGTCTCGGAATGGGCGCATAACCTGCGCTG  
ACCAGTTTAGGGGCTTAGCAGATGCCTGCCAGCTGACCTCGTTGGCAGGAGGGTTGGGTGGAGATGTTTTTAGCA  
GAGCTTCCATTAGTGTAGACCTGTAGCCACCTGTCAGAAGGTGGGTGGCATATTGGGGACCTGGGAATGTGTGAA  
GGAGGAGATCAAATTTTCAAGTGCTTTGGACAGAAAAGAGGCTCTGGATTTAAGCGGGTGGTCACTGTGAGACC  
AGGTCTACCTTGGGACTGTTATTTAACTGAATCAGTTATTTCTTGAATTTTACAGTAGTGGGTGGGCCTGTTT  
TAAGGCTCTGACAGATACCACGAAACATGAAGCACGTGGAACACAGACCCCGGGGTCTTTCTGAGTGCAAGG  
CTGAAATGGACAAGGGCTCCTCACGGGGGTGGAGGGAGCCGGAGCCTGCCTTGTTTCTTTTTTGAAGTTGTGAC  
ATTTTTCAAACACATAATTAAGGACTTATGCTCTGCTGTCTCAGG

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**FIGURE 4738**

MASAGVAAGRQAEDVLPPTSDQFLPDTKPLPPPQPPVPAPQPQQSPAPRPQSPARAREEENYSFLPLVHNI IKC  
MDKDSPEVHQDLNALKSKFQEMRKLISTMPGIHLSPEQQQQQLQSLREQVRTKNELLQKYKSLCMFEIPKE



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**FIGURE 4739**

GGGGCGACCCGACCTCTGGCTAACCTACCCCCGGAGCCATGGCCTCTGCTGGGGTGGCAGCCGGGCGACAGGCGG  
AGGATGTATTGCCGCCAACGTCCGACCAGCCGCTGCCTGACACCAAGCCGCTGCCGCCTCCTCAGCCGCCGCCGG  
TCCCTGCGCCTCAACCGCAGCAGTCGCCGGCGCCACGGCCTCAGTCACCTGCCC GCGCGAGGGAGGAAGAGAACT  
ACTCCTTTTTACCTTTGGTTCACAACATCATCAAATGGTAAGAACCTAGGAGAGGACCAGGCCCCATACTCCCTC  
CAGCTTCTCCTCTCAGCCGTTTCAGAGCTGCAAGAGGCCTTGGCGCTCTGGGGCACGCCCCCGTTTCACAGATGG  
GGAAACTCAGACCCAGAGCGGGAAGAGGCCTTTCCCAAGACCACAGAGACATTCCATGAGTTAAGCAAACGATT  
GAGCCTCGAGAGGTGCGATATCCTTAAGAATGAAGCCAGCTTAGAGACTAAATGCAGACTCTTGTCCAGCGGCTC  
AAATGTTTCATCCCAGCGATCTTGAGCAAATTAATCTCTTTAAGCCGCAAAAAAAAAAAAAAAAAAAAAAAAAA  
AAA

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**FIGURE 4740**

MASAGVAAGRQAEDVLPFTSDQPLPDTKPLPPPQPPVPAPQPQQSPAPRPQSPARAREEENYSFLPLVHNIKW

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**FIGURE 4741**

GCCCTGCCAGCCCCAGACAAGGGCACAGAAACAGCCAGGCCACACCAACTACAGCAGCTATTCCAAGCGGAAGCG  
CCTCACTCGGGGCGGGGCCAAGAACACCACCTCTTCACCCTGTAAGGGGCGTGCCAAGCGACGACGACAGCAGCA  
GGTGCTGCCCCTGGATCCCGCAGAGCCTGAAATCCGCCTCAAGTACATTTCTCTTGCAAGCGGGCTGAGGTCAGA  
CAGCCGGACCCCCGCCTTCTCACCTTCGTGCGGGTGGAGAAGCGAGACGCGTTACCACCATATGCACCTGTTGT  
CAACTCCCCTGGAGATGCGCCCAAGCCCCACAGGAAGCCTTCCTCTCTGCTCCTCTTCCTCATCCTCGTCCTC  
GTTCTCCTTGATGCAGCCGGGGCCTCCCTGGCCACACTCCCTGGAGGCTCCATCCTGCAGCCGCGGCCCTCCTT  
GCCCCTCTCCTCCACGATGCACCTTGGGGCCTGTGTTTCCAAGGCCCTGAGTACCTCTTGCCCTTGTTTGCTGCCT  
CTGCCAAAACCCGGCCAACTTCAAGGACCTTGGGGACCTCTGTGGGCCCTACTACCCTGAACACTGCCTCCCCAA  
AAAGAAGCCAAAACCTCAAGGAGAAGGTGCGGCCAGAAGGCACCTGTGAGGAGGCCTCGCTGCCGCTTGAGAGAAC  
ACTCAAAGGTCCCGAGTGTGCAGCTGCCGCCACTGCCGGGAAGCCCCCAGGCCTGACGGCCAGCTGACCCGGC  
CAAGCAGGGCCCACTGCGCACCACTGCGCGGGGCTGTCCCGGAGGCTGCAGAGCTGCTACTGCTGTGATGGCCG  
GGAGGATGGGGGCGAGGAGGCAGCCCCAGCCGACAAGGGTCGCAACATGAGTGCAGCAAGGAGGCTCCGGCAGA  
GCCCCGCGGGGAGGCCAGGAGCACTGGGTGCATGAGGCCTGTGCCGTGTGGACCGGCGGCGTCTACCTGGTGGC  
CGGGAAGCTCTTTGGGCTGCAGGAGGCCATGAAGGTGGCCGTGGACATGATGTGTTCCAGCTGCCAAGAAGCCGG  
GGCCACCATTGGGTGCTGCCACAAAGGATGCCTCCACACCTACCACTACCCGTGTGCCAGCGATGCAGGTTGCAT  
ATTTCATCGAAGAGAACTTTTCTTTGAAATGTCCCAAACATAAGAGGCTGCCGTAGTAATCCACCCCAACGGCCGG  
AGGAGCCGCGGAGCCCCGCCTGCCGCCCGCCGCCGAAGGAGAGGAGCCGCTGCGCAGCCCCCGGGCCTTTGAG  
CTGCTCCAGCGCTGGTCCAGAGCCGATCCTTGATCCGGGTCCCGGATCGTGATCCGGCCGCTAGGGCTCAGA  
CTTGCGGCCCCGGGTTGGGAGGAAAACCCGTTCCGGAGCCGCTGCTCCCGGAACCGGACGGCACAGGGCGTTCT  
TGCCACCCCAAGGGGCCAGGCTTGCGGAGGGGGAGCCCGCGGAGCGGCCAGACTCCCCGGGGCGCTCAGCCTCCG  
GCGAGGGTGGGAGACGGCTTTGTCTGGGGACACTTTCCCTCTGGAATCTCAAGACGACGTGGCACACATTCCAC  
GTGGGTGCTGCCGCCACCCAGTCGGTCGTGGCGTGCAGCTGGGAGCCCTGGGCTTGGGGGTGGGGGTGAAACA  
GTACTGGAAGAGGCGGAGGGCGGCTCCTAGCTCCGTGGACTAGGCGGGGAGAAAGGAAGCCTTTCTGAGAGCGG  
GCTAGGCCGGCACTGGAGAGGCCGAGCCTTTGGAACAAACCGTGCGGAACGCGTCCAGGGGCCTTCCCGCCAG  
CCTTTGCCAGATCTCTCGTGCGGTTCCGGGCAAAGCCGGGTAGACCTGGGCTATGCTCAGTTAGGGGTTGCGGGA  
TCCCCGAGTGTGGGCGGGACTGGGACACCCTTTGGCCTCTGTTTGTCCCTTTCCAGTCTCCACCCCAACCCCTG  
GAGCCAGCCTGGGAGCGCAAAAACCAAGAGCGGCCAGAACGCACCTCCGGCTCCGGCGGACGCGCGACCGTTG  
TGCACCACAGGGACCGCGCCTACTCTGCACGGGAGCAGGGACAGCGCTAGATTTCTGTGTACAAAACCTGTG  
TACCCCTCTATATATATGTTACATAGAATGTATATATGTTGGGAACATGCTCGCTTCTCCCGTGTGTGCGCGCCG  
TGCGTCTGTGCGCCGCAACAGAGCCCCAACCGGGCCTTTGCCGGGTAAGGGGCTACCGCGACGCCACTTGTCAC  
GCAGCCACCACCGGCCCGGGCCAGTCCCTGCCAGTCCGTCCGCTGTCCGTCCGTGCTCAGCTCTGTCCACGC  
TTGATAGGCCTGACGCAGCCCCAGCCAGGGCCGCCCTAGCAACTTCTGTACATATGACTGTAAAATGGTAA  
ACGTGTGTATTATATCTGGCCTCGTTATATAGTGATATATATGTATACATATACATATATATATATATGAA  
GACTGTAAATGTTAAGACGACTAGTGTTCTTATTAGTATATTGCTTCACACTGAAGATTGTGTGTATCGAGCTGT  
TTCTAAAAGATGTTTATTTTCTTAAGAGTAAAAAACAGTCATTGCATTAGAAAAAAGTCAA  
TAAAGATACAACGATTGTTTTGAAAA

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**FIGURE 4742A**

TAACGAGGAACTTTTGCGCGGCGCCGGGCGCCTCTGAGGCCAGGGCAGGACACGAACGCGCGGAGCGGCGGCGG  
CGACTGAGAGCCGGGGCCGCGGCGGCGCTCCCTAGGAAGGGCCGTACGAGGCGGCGGGCCCGGCGGGCCTCCCGG  
AGGAGGCGGCTGCGCCATGACGAGCCACCCTTCAGCGAGGCGGCTTTGGAGCAGGCGCTGGGCGAGCCGTGCGA  
TCTGGACGCGGCGCTGCTGACCGACATCGAAGACATGCTTCAGCTTATCAACAACCAAGACAGTGACTTCCCTGG  
CCTATTTGACCCACCCTATGCTGGGAGTGGGGCAGGGGGCACAGACCCTGCCAGCCCCGATACCAGCTCCCCAGG  
CAGCTTGTCTCCACCTCCTGCCACATTGAGCTCCTCTCTTGAAGCCTTCCTGAGCGGGCCGAGGCAGCGCCCTC  
ACCCCTGTCCCCTCCCCAGCCTGCACCCACTCCATTGAAGATGTACCCGTCCATGCCCGCTTTCTCCCCTGGGCC  
TGGTATCAAGGAAGAGTCAGTGCCACTGAGCATCCTGCAGACCCCCACCCACAGCCCCCTGCCAGGGGGCCCTCCT  
GCCACAGAGCTTCCCAGCCCCAGCCCCACCGCAGTTCAGCTCCACCCCTGTGTTAGGCTACCCACAGCCCTCCGGG  
AGGCTTCTCTACAGGAAGCCCTCCCGGGAACACCCAGCAGCCGCTGCCTGGCCTGCCACTGGCTTCCCCGCCAGG  
GGTCCCGCCCGTCTCCTTGACACCCAGGTCCAGAGTGTGGTCCCGCAGCAGCTACTGACAGTCACAGCTGCCCC  
CACGGCAGCCCCCTGTAACGACCACTGTGACCTCGCAGATCCAGCAGGTCCCGGTCTGTGTCAGCCCCACTTCAT  
CAAGGCAGACTCGCTGCTTCTGACAGCCATGAAGACAGACGGAGCCACTGTGAAGGCGGCAGGTCTCAGTCCCCCT  
GGTCTCTGGCACCCTGTGTCAGACAGGGCCCTTTGCCGACCCTGGTGAGTGGCGGAACCATCTTGGAACAGTCCC  
ACTGGTCTGATAGTGCAGGAGAAGCTGCCTATCAACCGCTCGCAGCTGGCAGCAAGGCCCCGGCCTCTGCCAGAG  
CCGTGGAGAGAAGCGCACAGCCCCACAACGCCATTGAGAAGCGCTACCGCTCCTCCATCAATGACAAAATCATTGA  
GCTCAAGGATCTGGTGGTGGGCACTGAGGCAAAGCTGAATAAATCTGCTGTCTTGCGCAAGGCCATCGACTACAT  
TCGCTTTCTGCAACACAGCAACCAGAACTCAAGCAGGAGAACCTAAGTCTGCGCACTGCTGTCCACAAAAGCAA  
ATCTCTGAAGGATCTGGTGTGCGCCTGTGGCAGTGGAGGGAACACAGACGTGCTCATGGAGGGCGTGAAGACTGA  
GGTGGAGGACACACTGACCCCCACCCCTCGGATGCTGGCTCACCTTTCCAGAGCAGCCCCCTGTCCCTTGGCAG  
CAGGGGCACTGGCAGCGGTGGCAGTGGCAGTGACTCGGAGCCTGACAGCCAGTCTTTGAGGACAGCAAGGCAAA  
GCCAGAGCAGCGGCGCTCTCTGCACAGCCGGGCGATGCTGGACCGCTCCCGCCTGGCCCTGTGCACGCTCGTCTT  
CCTCTGCCTGTCTGCAACCCCTTGGCCTCCTGTGTTGGGGCCCGGGGGCTTCCCAGCCCCCTAGATACCACCAG  
CGTCTACCATAGCCCTGGGCGCAACGTGCTGGGCACCCAGAGCAGAGATGGCCCTGGCTGGGGCCAGTGGCTGCT  
GCCCCAGTGGTCTGGCTGCTCAATGGGCTGTTGGTGCTCGTCTCCTTGGTGCTTCTCTTTGTCTACGGTGAGCC  
AGTCACACGGCCCCACTCAGGCCCCGCGGTGTACTTCTGGAGGCATCGCAAGCAGGCTGACCTGGACCTGGCCCCG  
GGGAGACTTTGCCAGGCTGCCAGCAGCTGTGGCTGGCCCTGCGGGCACTGGGCGGGCCCTGCCACCTCCCA  
CCTGGACCTGGCTTGTAGCCTCCTCTGGAACCTCATCCGTACCTGCTGCAGCGTCTCTGGGTGGGCGGCTGGCT  
GGCAGGCCGGGCAGGGGGCCTGCAGCAGGACTGTGCTCTGCGAGTGGATGCTAGCGCCAGCGCCGAGACGCAGC  
CCTGGTCTACCATAAGCTGCACCAGCTGCACACCATGGGGAAGCACACAGGCGGGCACCTCACTGCCACCAACCT  
GGCGCTGAGTGGCCTGAACCTGGCAGAGTGTGCAGGGGATGCCGTGTCTGTGGCGACGCTGGCCGAGATCTATGT  
GGCGGCTGCATTGAGAGTGAAGACCAGTCTCCACGGGCCTTGCAATTTCTGACACGCTTCTTCTGAGCAGTGC  
CCGCCAGGCTGCCTGGCACAGAGTGGCTCAGTGCCTCCTGCCATGCACTGGCTCTGCCACCCCGTGGGCCACCG  
TTTCTTCGTGGATGGGGACTGGTCCGTGCTCAGTACCCCATGGGAGAGCCTGTACAGCTTGGCCGGGAACCCAGT  
GGACCCCTGGCCCAGGTGACTCAGCTATTCCGGGAACATCTCTTAGAGCGAGCACTGAACTGTGTGACCCAGCC  
CAACCCAGCCCTGGGTGAGCTGATGGGGACAAGGAATTCTCGGATGCCCTCGGGTACCTGCAGCTGCTGAACAG  
CTGTTCTGATGCTGCGGGGGCTCCTGCCTACAGCTTCTCCATCAGTTCAGCATGGCCACCACCACCGGCGTAGA  
CCCGGTGGCCAAGTGGTGGGCTCCTCTGACAGCTGTGGTGATCCACTGGCTGCGGGCGGGATGAGGAGGCGGCTGA  
GCGGCTGTGCCCCTGGTGGAGCACCTGCCCCGGGTGCTGCAGGAGTCTGAGAGACCCCTGCCAGGGCAGCTCT  
GCACTCCTTCAAGGCTGCCCCGGGCCCTGCTGGGCTGTGCCAAGGCAGAGTCTGGTCCAGCCAGCCTGACCATCTG  
TGAGAAGGCCAGTGGGTACCTGCAGGACAGCCTGGCTACCACACCAGCCAGCAGCTCCATTGACAAGGCCGTGCA  
GCTGTTCTGTGTGACCTGCTTCTTGTGGTGCACACAGCCTGTGGCGGCAGCAGCAGCCCCCGGCCCGGCCCG  
AGCAGCCCAGGGCGCCAGCAGGCCCCAGGCTTCCGCCCTTGAGCTGCGTGCTTCCAACGGGACCTGAGCAG  
CCTGAGGCGGCTGGCACAGAGCTTCCGGCCCGCCATGCGGAGGGTGTTCCTACATGAGGCCACGGCCCGGCTGAT  
GGCGGGGGCCAGCCCCACACGGACACACCAGCTCCTCGACCGCAGTCTGAGGCGGCGGGCAGGCCCCGGTGGCAA  
AGGAGGCGCGGTGGCGGAGCTGGAGCCGCGGCCACGCGGCGGGAGCACGCGGAGGCCTTGCTGCTGGCCTCCTG  
CTACCTGCCCCCGGCTTCTGTGCGCGCCCGGGCAGCGCTGGGCATGCTGGCTGAGGCGGCGCGCACACTCGA  
GAAGCTTGGCGATCGCCGGCTGCTGCACGACTGTGACAGATGCTCATGCGCCTGGGCGGTGGGACCACTGTCAC

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**FIGURE 4742B**

TTCCAGCTAGACCCCGTGTCCCCGGCCTCAGCACCCCTGTCTCTAGCCACTTTGGTCCCGTGCAGCTTCTGTCCT  
GCGTCGAAGCTTTGAAGGCCGAAGGCAGTGCAAGAGACTCTGGCCTCCACAGTTCGACCTGCGGCTGCTGTGTGC  
CTTCGCGGTGGAAGGCCCCGAGGGGCGCGATCTTGACCCTAAGACCGGCGGCCATGATGGTGCTGACCTCTGGTGG  
CCGATCGGGGCACTGCAGGGGCCGAGCCATTTTGGGGGGCCCCCTCCTTGCTCTGCAGGCACCTTAGTGGCTTT  
TTTCCTCCTGTGTACAGGGAAGAGAGGGGTACATTTCCCTGTGCTGACGGAAGCCAACCTTGGCTTTCCCGGACTG  
CAAGCAGGGCTCTGCCCCAGAGGCCTCTCTCTCCGTCGTGGGAGAGAGACGTGTACATAGTGTAGGTCAGCGTGC  
TTAGCCTCCTGACCTGAGGCTCCTGTGCTACTTTGCCTTTTGCAAACCTTTATTTTCATAGATTGAGAAGTTTGT  
ACAGAGAATTAAAAATGAAATTATTTATA

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**FIGURE 4743**

MDEPPFSEAALEQALGEPCDLDAALLTDIEDMLQLINNQDSDFPGLFDPFYAGSGAGGTDPASPDTSPPGSLSP  
PATLSSSLEAFLSGPPQAAPSPPLSPPQPAPTPLKMYPSMPAFSPGPGIKEESVPLSILQTPTPQPLPGALLPQSFP  
APAPPQFSSTPVLGYPSPPGGFSTGSPPGNTQQPLPGLPLASPPGVPPVSLHTQVQSVVPQQLLTVTAAPTAAPV  
TTTVTSQIQQVPVLLQPHFIKADSLLLTAMKTDGATVKAAGLSPLVSGTTVQTGPLPTLVSGGTILATVPLVDA  
EKLPIINRLAAGSKAPASAQSRGEKRTAHNAIEKRYRSSINDKIIELKDLVVGTEAKLNKSAVLRKAIDYIRFLQH  
SNQKLQENLSLRTAVHKSLSKDLVSACGSGGNTDVLMEGVKTEVEDTLTPPPSDAGSPFQSSPLSLGSRGSGS  
GGSGSDSEPDSPVFEDSKAKPEQRPSLHSRGMLDRSRLALCTLVFLCLSCNPLASLLGARGLPSPSDTTSVYHSP  
GRNVLGTESRDGPGWAQWLLPPVWLLNGLLVLSLVLLFVYGEVTRPHSGPAVYFWRHRKQADLDLARGDFAQ  
AAQQLWLALRALGRPLPTSHLDLACSLWNLI RHLLQRLWVGRWLAGRAGGLQQDCALRVDASASARDAALVYHK  
LHQLHTMGKHTGGHLTATNLALSALNLAECAGDAVSATLAEIYVAAALRVKTS LPRALHFLTRFFLSSARQACL  
AQSGSVPPAMQWLCHPVGHRFFVDGDWSVLSTPWESLYSLAGNPVDPLAQVTQLFREHLLERALNCVTQPNPSPG  
SADGDKEFSDALGYLQLLNSCSDAAGAPAYSFSISSMATTTGVDPVAKWWASLTAVVIHWLRRDEEAAERLCPL  
VEHLPRVLQESERPLPRAALHSFKAARALLGCAKAESGPASLTICEKASGYLQDSLATTPASSSIDKAVQLFLCD  
LLLVRTSLWRQQPPAPAPAAQGASSRPQASALELRGFQDLSLRLRLAQSF RPAMRRVFLHEATARLMAGASP  
TRTHQLLDRSLRRRAGPGGKGGA VAELEPRPTRREHAEALLASCYLPPGFLSAPGQRVGMLAEAAARTLEKLGR  
RL LHDCQQMLMRLGGGTTVTSS

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**FIGURE 4744**

AGGTCGTTCGCGATGAACTCCTGCTGGGGAAGGACTTCCCTGCCTCCCCACCCAAGGGCTACTTCTTGACCAA  
GATCTTCCACCCGAACCTTGGGCGCCAATGGCGAGATGTGCGTCAACGTGCTCAAGAGGGACTGGACGGCTGAGCT  
GGGCATCCGACACGTACTGCTGACCATCAAGTGCCTGCTGATCCACCCTAACCCGAGTCTGCACTCAACGAGGA  
GGCGGGCCGCTGCTCTTGGAGAACTACGAGGAGTATGCGGCTCGGGCCCGTCTGCTCACAGAGATCCACGGGGG  
CGCCGGCGGGCCAGCGGCAGGGCCAAAGCCGGGCGGGCCCTGGCCAGTGGCACTGCAGCTTCTTCCACCGACTC  
TGGGGCCCCAGGGGGCTTGGGAGGGGCTGAGGGTCCCATGGCCAAGAAGCATGCTGGCGAGCGCGATAAGAAGCT  
GGCGGCCAAGAAAAAGACGGACAAGAAGCGGGCGCTACGGCGGCTGTAGTGGGCTCTCTTCTCCTTCCACCGTG  
ACCCCAACCTCTCCTGTCCCCTCCCTCCAACCTCTGTCTCTAAGTTATTTAAATTATGGCTGGGGTCGGGAGGGT  
ACAGGGGGCACTGAGACCTGGATTTGTTTTTTTAAATAAAGTTGGAAAAGCA

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**FIGURE 4745**

TTTCTCTGGAGGAGCTCCGCGCGTGGCGAGTCTGTGTCTCCCTGTCCCCCAGAGCAGAGAACCCTCTCTGTGTC  
TGGACCGGGGAGGAGCAGACGCTGGACAGGGTGTGTGTGTTTCAGCAGTGGATTGTCAGACTTGGGGTCCCGGCTG  
CTCCCTTTTGGGTCTCTCCCCGGGCGCGCTGATCTGACTGTAAATTCCTTCTGCTGGAGCTAGGGTTTCGGCCACCT  
TGACGCGCCCCCTCTGCCCCGGAGCGTGTCTTTGGGTTTTGTGTGTGTGGGAGTGGGGTGTATGTGTGTTTCTT  
ATCCGAGACACCTCCGGGTCGTTTGCTTGAAACCGGCTGAGGGCCCCGACAGCCTGGAGCATTGTTGGTGGAAAG  
TGAGGCAGGTAGCGCCCAAGGCTCCTGTACCAGGGCCAGGTTAGGCACCAACGCGTCCCTTATGTCTCTGCAGCC  
TGCAGTGTGGTGGAAACCGTTTTATAGACTGACAGTGTGAACGTGGGAGGGGATGGATATCAGAGACCCGTTTATC  
CACATTTTCAGAGAGTGGTATTGCTCCGATGTGAGTGTAGGCAGGTTACTCTCTGTGTCTCGTGTCTTTACCTG  
TAATTTGAGGTTTGTGTACCTACTTTTTAAGTGGTGGTTGTGAGGATTAAATGGAATTTTGACATGCAACAGTTG  
ACACAGGGCCAGACACCAAGTAAGGGATCAATCAGTTGTTGCTTTTATTAATAGTAGGCATCCATCTGCCACTT  
GTACGTAAGAAGGAAACACCAAGAATGAAAAGTAGCTTGTGTAGGTCACCCAGCCAACTAGCACATAGGGGAA  
ATTAGAATCCAGGCACTCCAGCAGGGCACTTTCCACCACCTGCACCTTTGTATTTCATCAGGCACAATATCCTT  
ACTGTTGTCTGTAACCTGTCTATGTTCAGTGTCTGACTCTGCAGGGCCCTGGTGGTATAAAGGTACTGAGACTT  
GCCTGTGTTTAGGGCTTCCTGAAGATTAAATGGCTGCTGAAGTTCTTGAGTTTAGCTTTAGCTCAAAAAGATACTG  
CGTCAGACTCTGCGTTCTGAGTAGAGTCTCAGACAATGAAAAAGAAATACAATGAAAAAGGGGAAAACTTCAAT  
CCAGAATCTCTTGCCACAGTTTTTGGCAGAATGCTGGCAATTCAGGAAGATATGTGGAGAACGGAAAGGTTGC  
TACACCCAAATAGTGGCGCAAAGGCTATGATTATGGAGGATTGGACCTGCAAACTCCAGAACAGAGTTCTGCCCT  
CTGAGGACCTGCCCCTTTCCCAAAGGGGTATCTTAAGAAGGAAAATATGGCTGCTCTTTGCCGGACAGCAGAGT  
CCCAGAGGCTGAACCTCCAGTGCACCCAGTTAGACTTGGAGCGGAACTCAAGTTGAATGAAAATGCCATCTCCAG  
GCTCCAGGCTAACCAAAAGTCTGTTCTGGTGTGCGGTGTGAGAGTCAAAGCAGTGGCTGAAATGCAGTTTGGGGA  
ACTCCTTGCTGCTGTGAGGAAGGCCAGGCCAATGTGATGCTCTTCTTAGAGGAGAAGGAGCAAGCTGCGCTGAG  
CCAGGCCAACGGTATCAAGGCCACCTGGAGTACAGGAGTGCCGAGATGGAGAAGAGTAAGCAGGAGCTGGAGAC  
GATGGCGGCCATCAGCAACACTGTCCAGTTCTTGGAGGAGTACTGCAAGTTTAAGAACACTGAAGACATCACCTT  
CCCTAGTGTTTACATAGGGCTGAAGGATAAACTCTCGGGCATCCGCAAAGTTATCACGGAATCCACTGTACACTT  
AATCCAGTTGCTGGAGAATAAAGAAAAAGCTCCAGGAGTTTTTCAAGGAAGAGGAGTATGACATCAGAACTCA  
AGTGTCTGCCATTGTTTCAGCGCAAATATTGGACTTCCAAACCTGAGCCAGCACCAGGGAACAGTTCTCTCAATA  
TGTGCATGACATCAGTTTCAGCCGGACACAGCACACAAGTATCTCCGGCTGCAGGAGGAGAACCGCAAGGTCAC  
CAACACCACGCCCTGGGAGCATCCCTACCCGGACCTCCCCAGCAGGTTCTGCACTGGCGGCAGGTGCTGTCCCA  
GCAGAGTCTGTACCTGCACAGGTACTATTTTGAGGTGGAGATCTTCCGGGCGAGGCACCTATGTTGGCCTGACCTG  
CAAAGGCATCGACCAGAAAGGGGAGGAGCGCAGCAGTTGCATTTCCGGAAACAACCTCTCTGAGGCTCCAATG  
GAACGGGAAGGAGTTACGGCCTGGTACAGTGACATGGAGACCCCACTCAAAGCTGGCCCTTTCTGGAGGCTCGG  
GGTCTATATTGACTTCCCAGGAGGGATCCTTTCTTCTATGGCGTAGAGTATGATTCCATGACTCTGGTTCAAA  
GTTTGCCTGCAAGTTTTTCAGAACCAGTCTATGCTGCCTTCTGGCTTTCCAAGAAGGAAAACGCCATCCGGATTGT  
AGATCTGGGAGAGGAACCCGAGAAGCCAGCACCGTCTTGGTGGGGACTGCTCCCTAGACTCCAGGAGCCATATC  
CCAGACCTTTGCCAGCTACAGTGATGGGATTTGCATTTTAGGGTGATTGGGGGCAAAAATAACTGCTGATGGTA  
GCTGGCTTTTGAAATCCTATGGGGTCTCTGAATGAAAACATTCTCCAGCTGCTCTCTTTTGCTCCATATGGTGCT  
GTTCTCTATGTGTTTGCAGTAATTCTTTTTTTTTTTTTTTTGGAGACGGAGTCTCGCACTGTTGCCAGGCTGGA  
GTGCAGTGGCGTGATCTTGGCTCACTGCAAGCTCCGCCTCCCGAGTTCAAGCAATTCTCTGCTCAGCCTCCCCG  
AGTAGCTGGGATTACAGTGCCTGCCACCACACCCAGCTAACGTTTTGTATTTTAGTAGAGATGGGGTTTACC  
ATGTTGGCCAGGCAGATCTCAAACCTCTGACCTCGTGATGCACTCACCTCGGCCTCCCAAAGTGCTGGGATTACA  
GGCGTGAGCCACTGCGCCCTGCCTGTTTGTAGTAATTTTAGGCACCAAATCTCCCTCATCTTCTAGTGCCATTCT  
TCCTCTCTGTTTCAGGTAAATGTACACTGTGCCCAGAATGGATGACCAGGAACCTTCAAGAGTGGCTGAAAAGAT  
TGCAGAGTTATCATAATAAATTGCTAAGTTGCGTATTTCCT



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**FIGURE 4746**

MQFGELLA AVRKAQANV MLFLEEKEQAALSQANGIKAHLEYRSAEMEKSKELETMAAISNTVQFLEEYCKFKNT  
EDITFPSVYIGLKDKLSGIRKVITESTVHLIQ LLENYKKKLQEF SKEEYDIRTQVSAIVQRKYWTSKPEPSTRE  
QFLQYVHDITFDPDTAHKYLRLQEENRKVTNTTPWEHPYPDLPSRFLHWRQVLSQQSLYLHRYFFEVEIFGAGTY  
VGLTCKGIDQKGEERSSCISGNNFSWSLQWNGKEFTAWYSDMETPLKAGPFWRLGVYIDFPGGILSFYGVEYDSM  
TLVHKFACKFSEPVYAAFWSKKENAIRIVDLGEEPEKPAPSLVG TAP

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**FIGURE 4747**

ACTGCCGGCCTGCGCGGTACTCACTGCCGGCCTCCGCGGTACCCACTGCCGGCCTCCGCGCTACCCGGCCGCAGC  
GCGCGAGTCACATGGAAGCTCCTGAGGAGCCCGCGCCAGTGCGCGGAGGCCCGGAGGCCACCCTTGAGGTCCGTG  
GGTCGCGCTGCTTGCGGCTGTCCGCCCTCCGAGAAGAGCTGCGGGCGCTCTTGGTCCTGGCTGGCCCCGCGTTCT  
TGGTTCAGCTGATGGTGTTCCTGATCAGCTTCATAAGCTCCGTGTTCTGTGGCCACCTGGGCAAGCTGGAGCTGG  
ATGCAGTCACGCTGGCAATCGCGGTTATCAATGTCACTGGTGTCTCAGTGGGATTGCGCTTATCTTCTGCCTGTG  
ACACCCTCATCTCCCAGACGTACGGGAGCCAGAACCTGAAGCACGTGGGCGTGATCCTGCAGCGGAGTGCGCTCG  
TCCTGCTCCTCTGCTGCTTCCCCTGCTGGGCGCTCTTTCTCAACACCCAGCACATCCTGCTGCTCTTCAGGCAGG  
ACCCAGATGTGTCCAGGCTTACCCAGACCTATGTCACGATCTTCATTCCAGCTCTTCTGCAACCTTTCTTTATA  
TGTTACAAGTTAAATATTTGCTCAACCAGGGAATTGTACTGCCCCAGATCGTAACCTGGAGTTGCAGCCAACTTG  
TCAATGCCCTCGCCAACTATCTGTTTCTCCATCAACTGCATCTTGGGGTGATAGGCTCTGCAGTGGCAAACCTGA  
TTTCCAGTACACCCTGGCTCTACTCCTCTTTCTCTACATCCTCGGGAAAAAACTGCATCAAGCTACATGGGGAG  
GCTGGTCCCTCGAGTGCTGCAGGACTGGGCGCTCCTTCCCTCCGCTGGCCATCCCCAGCATGCTCATGCTGTGCA  
TGGAGTGGTGGGCCTATGAGGTCGGGAGCTTCCTCAGTGGCATCCTCGGCATGGTGGAGCTGGGCGCTCAGTCCA  
TCGTGTATGAACTGGCCATCATTGTGTACATGGTCTTGCAGGCTTCAGTGTGGCTGCCAGTGTCCGGGTAGGAA  
ACGCTCTGGGTGCTGGAGACATGGAGCAGGCACGGAAGTCTCTACCGTTTCCCTGCTGATTACAGTGCTCTTTG  
CTGTAGCCTTCAGTGTCTGTGTTAAGCTGTAAGGATCACGTGGGGTACATTTTACTACCGACCGAGACATCA  
TTAATCTGGTGGCTCAGGTGGTTCCAATTTATGCTGTTTCCACCTCTTTGAAGCTCTTGCTTGCACGAGTGGTG  
GTGTTCTGAGGGGGAGTGGAATCAGAAGGTTGGAGCCATTGTGAATACCATTGGGTACTATGTGGTTGGCCTCC  
CCATCGGGATCGCGCTGATGTTTGCAACCACACTTGGAGTGATGGGTCTGTGGTCAGGGATCATCATCTGTACAG  
TCTTTCAAGCTGTGTGTTTCTAGGCTTTATTATTAGCTAAATTGGAAAAAGCCTGTCAGCAGGCTCAGGTAC  
ACGCCAATTTGAAAGTAAACAACGTGCCTCGGAGTGGGAATTCTGCTCTCCCTCAGGATCCGCTTCACCCAGGGT  
GCCCTGAAAACCTTGAAGGAATTTTAACGAACGATGTTGGAAGACAGGCGAGCCTCAGTCAGATCAGCAGATGC  
GCCAAGAAGAACCTTTGCCGGAACATCCACAGGACGGCGCTAAATTGTCCAGGAAACAGCTGGTGTGCGGCGAG  
GGCTTCTGCTCCTGGGGGTCTTCTTAATCTTGCTGGTGGGGATTTTAGTGAGATTCTATGTCAGAATTCAGTGAC  
GTGGTAGGAAAGAAAGTCAGGTGAGTGATGCTTTTGAGCTTACACACAATTCACAGGCCCCACCAGTGACAATTT  
ACTGTGAGTTAATGTCATTCAGGTGTGCCCATGGATTTTGAGGGCTGGAAATGCAAAGACACATTTTTCTATAAA  
AAGAAAAAGCAACTAAGGTTAAAAGCTATATTGTGGCCCAAGACACTGTCTGAAAGATGACATGAGTAGTAATTC  
ACCACTATCTGAACCAAGCAAGGATCAATGTGCTGACTGCATTGGCCAATGGCTTTGATACTTCTGCTATTTTTT  
TAGACACAAACCCATAAACTAACTGCTTAAGAATTCATACTGCTTGAATTATGTAAATATATTTTTACAGTATAT  
CTTTCCTTGGGCTTAGATTACTATTCACTGGGCAAATGGTATTTGTTTTTGTAAAAATTTTTTTTTTAATAGAC  
GGAAGTCTTGCTCTGTCATGCAGGCTGGAGTGCAGGTGGTGCATCATAGCTCACTGCAGCCTCGAACTCTTGGGC  
TTCAAGCAATCCTCCTGTGTCAGCCACCAGAGTAGCTGAGACTACAGGGGTATGCCACCATGCCAGCTGGCATT  
TGTTAATCTTCATTTGAGGTCTAGATCTAGGCACTGTGGACACTGAAAAACAGTTGGGAAATCTTTCGAGCTGTG  
GAAATCCAAACAAAGACTGATAATTCCTGGTAGGGGTGTGTGCGTGACGTACTGCAGCCTCAACCTCCTGGGCTC  
AAGTGATCCTCCCACCTCAGCCTCCTGAGTAGCTGAGACCACAGGCGTGTGCCACCACGCCTAGCTAATTTTTTA  
TACCAGGGTCTACCCTTTGTTCAGGCTGGTCTTGAATTCCTGGGATCAAGCAATCCTTCCACCTTGCCCTCC  
CAAAGTGTTGGGATTATAGGCATGAGCCACCACGACTGGCCAGAGGACAAAATTTTAATAAAGGTCTTAGCTTAA  
GCAGTAATCCTACTTCATTAAGCCTTCTTGGGGTGCAGTACACACCGTTAATTCAGCAACCTCAGTACATACTA  
AGTATGCTCAGTGCTGTGAAAGTGATTACACCAAATTAAGTCATTCTTATCACACCAATCAAAAGTCAAGAAG  
CCAGGGATAAAAGCACCTCAGGCACATAACATTAATCTAGTAATGTAATTCTCTGCACATCCAGCTGGTGAACT  
GCGTGCTGTAAGCTGGGACCAGCTTTGTCCATAACTGCTGAGAGAACTTGCTGAAGCTCTAGGAATAATTTTGCC  
TGCCCGGTTGCTCACCAGTTGTAGCTTGCCAGCTCCCAACACCCTTCTGTTGTTGTTCCGACATACCGAGGACCAACTGGTCTA  
ATACTGACATTTCTTTTGATAAAACCTCCAGCCTTCTGTGTGTTGTTCCGACATACCGAGGACCAACTGGTCTA  
CATGGATGCCCTGAACATGCAATCTTTCTTCCAAAATAAAACATTAAATAGAG

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**FIGURE 4748**

MEAPEEPAPVRGGPEATLEVRGSRCLRLSAFREELRALLVLAGPAFLVQLMVFLISFISVFCGHLGKLELDAVT  
LAIIVINVTGVS VG FGLSSACDTLISQTYGSQNLKHVG VILQRSALVLLLCCFPCWALFLNTQHILLFRQDPDV  
SRLTQTYVTIFIPALPATFLYMLQVKYLLNQGIVLPQIVTGVAANLVNALANYLFLHQLHLGVIGSALANLISQY  
TLALLFLYILGKKLHQATWGGWSLECLQDWASFLRLAIP SMLMLCMEWWAYEVGSFLSGILGMVELGAQSIVYE  
LAIIVYMLAGFSVAASVRVGNALGAGDMEQARKSSTVSLLITVLFVAVAFSVLLLSCKDHVGYIFTTDRDIINLV  
AQVVPYIYAVSHLFEALACTSGGVLRGSGNQKVGAI VNTIGYYVVG LPIGIALMFATTLGVMGLWSGI ICTVFQA  
VCFLGFIIQLNWKKACQQAQVHANLKVNNVPRSGNSALPQDPLHPGCPENLEGILTNDVGKTGEPQSDQQMRQEE  
PLPEHPQDGAKLSRKQLVLRG LLLLGVFLILLVGILVRFYVRIQ

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**FIGURE 4749**

CTCTGAGCAGAACTGACAGCATGAAGGCACTCCTGGCCCTGCCGCTGCTGCTGCTTCTCTCCACGCCCCCGTGTG  
CCCCCAGGTCTCCGGGATCCGAGGAGATGCTCTGGAGAGGTTTTGCCTTCAGCAACCCCTGGACTGTGACGACA  
TCTATGCCCAGGGCTACCACTCAGACGGCGTGACCTCATCTACCCCTCGGGCCCCAGTGTGCCTGTGCCCGTCT  
TCTGTGACATGACCACCGAGGGCGGGAAGTGGACGGTTTTCCAGAAGAGATTCAATGGCTCAGTAAGTTTCTTCC  
GCGGCTGGAATGACTACAAGCTGGGCTTCGGCCGTGCTGATGGAGAGTACTGGCTGGGGCTGCAGAACATGCACC  
TCCTGACACTGAAGCAGAAGTATGAGCTGCGAGTGGACTTGGAGGACTTTGAGAACAACACGGCCTATGCCAAGT  
ACGCTGACTTCTCCATCTCCCCGAACGCGGTGACGCGAGAGGAGGATGGCTACACCCCTCTTGTGGCAGGCTTTG  
AGGATGGCGGGGACGGTGAATCCCTGTCTACACAGTGGCCAGAAGTTCTCTACCTTCGACCGGGACCAGGACC  
TCTTTGTGACAGAACTGCGCAGCTCTCTCCTCAGGAGCCTTCTGGTTCCGACGCTGCCACTTTGCCAACCTCAATG  
GCTTCTACCTAGGTGGCTCCCACCTCTCTTATGCCAATGGCATCAACTGGGCCCAGTGGGAAGGGCTTCTACTACT  
CCCTCAAACGCACTGAGATGAAAATCCGCCGGGCCTGAAGGGCTGGCCCCCTCAGGCACCTTCTCTCCCTGGAC  
ACCCATGGTCTCCATGAGTGCTCCCTCTGCTGCCCCGTATGCATGCTTCTGCTGATTCCCGAGCACCAACTCCTT  
ACAAGGGGGCCTTGTGGCTCTCAGCCATGCCACATCCCTGTACACACCCAGGGCATCCATTCTTAAGCCAGACC  
CGGCTCCCCTACACCTGAAGTTACACTGCCAGCAGTTCCCCAGGCCTCTTCCGAGAGGCACATGGTTCTAGCCTG  
GACCTGGCTGGGCTCCATGAGAATGAGTTGCCTCCACCCTGTCCCAACAGCTGACAGCCAGGAGCCACTCTCCCA  
GCTGCAGGCCTTTGTGGTCCATCTTGTCTGCTTCTCTACTGTGGACCCCTGTCTGGGCCACCCTAGTGTGCTAA  
GCTGAGCAGTGCAGTGTGAACAGGGCCCATGGTGTATTCTAGGCCACAGCCAGCACTCCTCTGGGCTGCTCTCA  
AACCATGTCCCATCTTCAGCATCCCTCCCACCACTTACTCCCTGTGGTGAGTACCGTGGGAACCCAGCCCACC  
TCACTATCATACTCAGCTTCCCCTGATGGCCCATCCCAGCCCCTGAAGCTCTATGCCAAGAACACAGCTACCGCA  
CACCACCCTGAAACAGCCACAGCCAAGGTAGGCATGCATATGAGGTCTTCCCCATACCCTCTGGGTGTTGAGAGG  
TTTAGCCACATGAGGGAGCAGAGGACAATCTCTGCAGGGCTGGGAGTGGGTAGGGACTGAAGGTCTCAATAAACC  
TTCAGAACCTGAATGAACTGGCTTCATACACACAAACATATTTGTTTATCCCCCAAATGTAGGCACCTGGCTCCT  
CCTTGCTCCCCTGCTGATGGTGTCTACCCCGAACTCCAAAAATTACACCTGGAGTCAGGTGCAGAAGGGAACCT  
TGTATTTACAGGCCTCATTTTGTATGGCAAAAAGACAGTGTAATAATA

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**FIGURE 4750**

CGGAGACCCCGCGCTGGGGACGGGAGGCCGGCGAGCCTCGGGACCTCTGAAAGCCTTGAGGAGGCGCGGGGACA  
CCATGGCCGAGCCTCTGAAGGAGGAAGACGGCGAGGACGGCTCTGCGGAGCCCCCGGGCCCGTGAAGGCCGAAC  
CCGCCCACACCGCTGCGCTCTGTAGCGGCCAAGAACCTGGCCCTGCTTAAAGCCCGCTCCTTCGATGTGACCTTTG  
ACGTGGGCGACGAGTACGAGATCATCGAGACCATAGGCAACGGGGCCTATGGAGTGGTGTCTCCGCCCCCGGCC  
GCCTCACCGGCCAGCAGGTGGCCATCAAAAAGATCCCTAATGCTTTTCGATGTGGTGACCAATGCCAAGCGGACCC  
TCAGGGAGCTGAAGATCCTCAAGCACTTTAAACACGACAACATCATCGCCATCAAGGACATCCTGAGGCCCCACCG  
TGCCCTATGGCGAATTCAAATCTGTCTACGTGGTCTTGACCTGATGGAAAGCGACCTGCACCAGATCATCCACT  
CCTCACAGCCCCCTCACACTGGAACACGTGCGCTACTTCTGTACCAACTGCTGCGGGGCCTGAAGTACATGCACT  
CGGCTCAGGTTCACACCGTGACCTGAAGCCCTCCAACCTATTGGTGAATGAGAACTGTGAGCTCAAGATTGGTG  
ACTTTGGTATGGCTCGTGGCCCTGTGCACCTCGCCCCGCTGAACATCAGTACTTCATGACTGAGTATGTGGCCACGC  
GCTGGTACCGTGCGCCCGAGCTCATGCTCTCTTTGCAATGAGTATACACAGGCTATTGACCTCTGGTCTGTGGGCT  
GCATCTTTGGTGAGATGCTGGCCCCGGCGCCAGCTCTTCCAGGCCAAAACATATGTACACCAGCTACAGCTCATCA  
TGATGGTGCTGGGTACCCCATCACCAGCCGTGATTGAGGCTGTGGGGGCTGAGAGGGTGCGGGCCTATATCCAGA  
GCTTGCCACCACGCCAGCCTGTGCCCTGGGAGACAGTGTACCCAGGTGCCGACCGCCAGGCCCTATCACTGCTGG  
GTCGCAATGCTGCGTTTTGAGCCAGCGCTCGCATCTCAGCAGCTGCTGCCCTTCGCCACCCTTTCTGGCCAAGT  
ACCATGATCCTGATGATGAGCCTGACTGTGCCCCGCCCTTTGACTTTGCCTTTGACCGCGAAGCCCTCACTCGGG  
AGCGCATTAAGGAGGCCATTGTGGCTGAAATTGAGGACTTCCATGCAAGGCGTGAGGGCATCCGCCAACAGATCC  
GCTTCCAGCCTTCTCTACAGCCTGTGGCTAGTGAGCCTGGCTGTCCAGATGTTGAAATGCCAGTCCCTGGGCTC  
CCAGTGGGGACTGTGCCATGGAGTCTCCACCACCAGCCCCGCCACCATGCCCGGCCCTGCACCTGACACCATTG  
ATCTGACCCTGCAGCCACCTCCACCAGTCAGTGAGCCTGCCCCACCAAAGAAAGATGGTGGCATCTCAGACAATA  
CTAAGGCTGCCCTTAAAGCTGCCCTGCTCAAGTCTTTGAGGAGCCGGCTCAGAGATGGCCCCAGCGCACCCCTGG  
AGGCTCCTGAGCCTCGGAAGCCGGTGACAGCCCAGGAGCGCCAGCGGGAGCGGGAGGAGAAGCGGCGGAGGCGGC  
AAGAACGAGCCAAGGAGCGGGAGAAACGGCGGCAGGAGCGGGAGCGAAAGGAACGGGGGGCTGGGGCCTCTGGGG  
GCCCCCTCCACTGACCCCTTGGCTGGACTAGTGCTCAGTGACAATGACAGAAGCCTGTTGGAACGCTGGACTCGAA  
TGGCCCCGCGCCGAGCCCCAGCCCTCACCTCTGTGCGGGCCCTGCCCCAGCGCCAACGCCAACCCCCAACCCAG  
TCCAACCTACCAGTCTCTCTCTGGCCCTGTAGCCAGCCCACTGGCCCCGCAACCACAATCTGCGGGCTCTACCT  
CTGGCCCTGTACCCAGCCTGCCTGCCACCCCTGGCCCTGCACCCACCCCACTGGCCCTCCTGGGCCCATCC  
CTGTCCCCGCGCCACCCAGATTGCCACCTCCACCAGCCTCCTGGCTGCCAGTCACTTGTGCCACCCCTGGGC  
TGCCTGGCTCCAGCACCCAGGAGTTTTGCCTTACTTCCACCTGGCCTGCCGCCCCCAGACGCCGGGGAGCCC  
CTCAGTCTTCCATGTGAGATCACCTGATGTCAACCTTGTGACCCAGCAGCTATCTAAGTCACAGGTGGAGGACC  
CCCTGCCCCCTGTGTTCTCAGGCACACCAAAGGGCAGTGGGGCTGGCTACGGTGTGGCTTTGACCTGGAGGAAT  
TCTTAAACCAGTCTTTGACATGGGCGTGGCTGATGGGCCACAGGATGGCCAGGCAGATTACAGCCTCTCTCTCAG  
CCTCCCTGCTTGGCTGACTGGCTCGAAGGCCATGGCATGAACCCTGCCGATATTGAGTCCCTGCAGCGTGAGATCC  
AGATGGACTCCCCAATGCTGCTGGCTGACCTGCCTGACCTCCAGGACCCCTGAGGCCCCAGCCTGTGCCTTGCT  
GCCACAGTAGACCTAGTTCCAGGATCCATGGGAGCATTCTCAAAGGCTTTAGCCCTGGACCCAGCAGGTGAGGCT  
CGGCTTGGATTATTCTGCAGGTTTCATCTCAGACCCACCTTTAGCCTTAAGCAGCCACCTGAGCCACCACCGAGC  
CATGGCAGGATCGGGAGACCCCACTCCCCCTGAACAATCCTTTTCAGTATTATATTTTATTATTATTATGTTA  
TTATTACACTGTCTTTTTTGGCATCAAAATGAGGCCTGTGAAATACAAGGTT

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**FIGURE 4751**

CCAGGAGCCCCAGTTACCGGGAGAGGCTGTGTCAAAGGCGCCATGAGCAAGATCAGCGAGGCCGTGAAGCGCGCC  
CGCGCCGCCTTCAGCTCGGGCAGGACCCGTCCGCTGCAGTTCCGGATCCAGCAGCTGGAGGCGCTGCAGCGCCTG  
ATCCAGGAGCAGGAGCAGGAGCTGGTGGGCGCGCTGGCCGCAGACCTGCACAAGAATGAATGGAACGCCTACTAT  
GAGGAGGTGGTGTACGTCCTAGAGGAGATCGAGTACATGATCCAGAAGCTCCCTGAGTGGGCCGCGGATGAGCCC  
GTGGAGAAGACGCCCCAGACTCAGCAGGACGAGCTCTACATCCACTCGGAGCCACTGGGCGTGGTCCTCGTCATT  
GGCAGCTGGAACACTACCCCTTCAACCTCACCATCCAGCCCATGGTGGGCGCCATCGCTGCAGGGAACTCAGTGGTC  
CTCAAGCCCTCGGAGCTGAGTGAGAACATGGCGAGCCTGCTGGCTACCATCATCCCCCAGTACCTGGACAAGGAT  
CTGTACCCAGTAATCAATGGGGGTGTCCCTGAGACCACGGAGCTGCTCAAGGAGAGGTTTCGACCATATCCTGTAC  
ACGGGCAGCACGGGGGTGGGGAAGATCATCATGACGGCTGCTGCCAAGCACCTGACCCCTGTCACGCTGGAGCTG  
GGAGGGAAGAGTCCCTGCTACGTGGACAAGAACTGTGACCTGGACGTGGCCTGCCGACGCATCGCCTGGGGGAAA  
TTCATGAACAGTGGCCAGACCTGCGTGGCCCCCTGACTACATCCTCTGTGACCCCTCGATCCAGAACCAAATTGTG  
GAGAAGCTCAAGAAGTCACTGAAAGAGTTCTACGGGGAAGATGCTAAGAAATCCCGGGACTATGGAAGAATCATT  
AGTGCCCGGCACCTCCAGAGGGTGATGGGCCTGATTGAGGGCCAGAAGGTGGCTTATGGGGGCACCGGGGATGCC  
GCCACTCGCTACATAGCCCCCACCATCCTCACGGACGTGGACCCCACTCCCGGTGATGCAAGAGGAGATCTTC  
GGGCCTGTGCTGCCCCATCGTGTGCGTGCGCAGCCTGGAGGAGGCCATCCAGTTCATCAACCAGCGTGAGAAGCCC  
CTGGCCCTCTACATGTTCTCCAGCAACGACAAGGTGATTAAGAAGATGATTGCAGAGACATCCAGTGGTGGGGTG  
GCGGCCAACGATGTCATCGTCCACATCACCTTGCACTCTCTGCCCTTCGGGGGCGTGGGGAACAGCGGCATGGGA  
TCCTACCATGGCAAGAAGAGCTTCGAGACTTTCTCTCACCGCCGCTCTTGCTGGTGGGCCTCTGATGAATGAT  
GAAGGCCTGAAGGTGAGATAACCCCCGAGCCCGGCCAAGATGACCCAGCACTGAGGAGGGGTTGCTCCGCCTGGC  
CTGGCCATACTGTGTCCCATCGGAGTGGGACCACCCTCACTGGCTCTCCTGGCCCTGGGAGAATCGCTCCTGCA  
GCCCCAGCCAGCCCCACTCCTCTGCTGACCTGCTGACCTGTGCACACCCCACTCCACATGGGGCCAGGCCTCA  
CCATTCCAAGTCTCCACCCCTTTCTAGACCAATAAAGAGACGAATACAATTTTCTAACTC

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**FIGURE 4752A**

AACTGGAAGGCGCCCGTCTTTCTTTGACTGGAGCGGACCCGCGGACGCAACCGCCTCGCCAGCCGGAGCCAG  
CGCGAGCTCGGCACGGTGGACACCCGGTCCGAGGCCGGCAAGCCGGCTGGTGCCCGAGTCGGCCAAGCATGGGCA  
ACCACTCAGGACGGCCCGAGGATCCGGAACCAGGGGCCCTTTACAACAATAAACGGACAGGCATTCCAGCCCCAC  
GGGAATTTTTCAGTAAGTGTCTCAAGAGAGAGGTCTGTGCCACGTGGTCCCTCCAACCCAGGAAATCAGTGTCCA  
GTCCAACCTTCTTCCAACACTCCCACTCCTACGAAACACCTGAGGACCCCTTCCACAAAAGCCCAAGCAGAGAATG  
AAGGTGGAGAAAAGGCTGCGCTTGAGTCCCAAGTTCGGGAACCTTTTGGCAGAAGCCAAAAGCAAAAGATAGTAAA  
TTAACAGGCTTCGAAGTGAATAAGAAATACAAAGAGAAAAGGACTCTGAACGCTGAGGGGACTGATGCTTTGG  
GCCCCAATGTTCGATGGAACATCAGTCTCCCCAGGTGACACGGAACCTATGATAAGAGCTCTTGAGGAGAAGAACA  
AGAATTTTCAGAAAGAGCTTTCCGATCTAGAGGAAGAAAACCGGGTCTGAAGGAGAAACTGATCTATCTTGAGC  
ACTCCCCAAATTCAGAAGGGGCGAGCAAGTCACACTGGCGACAGCAGCTGCCCAACATCCATAACTCAAGAGTCAA  
GCTTCGGAAAGCCCAACTGGAATCAGATGTCCAGTGACATTGATGAGTATAAAAAAACATACATGGAATGCAT  
TACGGACATCAGGCTCCTCAAGTAGCGATGTTACCAAAGCTTCTTTGTGCGCCAGATGCTTCCGACTTTGAGCACA  
TTACAGCAGAGACACCCTCAAGGCCCCCTGTCTCCACCAGTAACCCCTTTAAGAGTTCAAAGTGTCTACTGCTG  
GGAGTTCCCCAAACAGCGTAAGTGAATTGTCCCTGGCTTCCCTCACAGAGAAGATACAAAAGATGGAAGAAAACC  
ACCATAGCACTGCAGAAGAACTACAGGCTACTCTACAAGAATTATCAGACCAGCAACAAATGGTACAGGAATTGA  
CAGCTGAAAATGAGAAGCTGGTGGATGAAAAGACGATTTTAGAGACATCCTTTATCAGCATCGAGAGAGGGCAG  
AGCAGCTAAGTCAAGAAAATGAGAAGCTGATGAATCTTTTACAAGAGCGAGTAAAGAATGAAGAGCCCACCACTC  
AGGAAGGAAAAATTATTGAAGTGGAGCAGAAGTGCACAGGTATTCTTGAACAGGGCCGCTTTGAAAGAGAGAAGC  
TACTCAACATTTCAGCAGCAGTTGACCTGTAGCTTGCAGGAAGTTGAGGAAGAAAACCAAGGAGCTTTAGAAATGA  
TTAAACGTCTGAAGGAAGAAAATGAAAACTGAATGAGTTTCTAGAACTGGAACGGCATAATAATAACATGATGG  
CCAAAACCTTTGGAAGAGTGTAGAGTTACCTTGAAGGGCTAAAAATGGAGAATGGATCTTTGAAGTCTCATTTGC  
AGGGTGAGAAGCAGAAAGCCACAGAGGCCAGTGCTGTGGAGCAGACGGCAGAGAGCTGCGAAGTTCAAGAAATGT  
TGAAAGTAGCCCGAGCAGAGAAAGATCTACTGGAAGTGTCTTGCAATGAGCTCAGACAAGAATTACTAAAGGCAA  
ACGGTGAAATTAACATGTTTCCAGTCTGCTGGCCAAGGTGGAAGGATTATTCATACCTGAAGGAGATATGTG  
ATCACCAGCCGAACAGCTGAGCAGAACCAGCCTAAAGCTGCAAGAAAAAGCATCAGAGAGTGATGCAGAGATCA  
AAGACATGAAAGAAACCATATTTGAATTGGAAGATCAGGTGGAACAGCACCCGGGCTGTCAAGTTACACAATAATC  
AACTCATCAGTGAGCTAGAAAGTAGTGTGATCAAGCTGGAGGAACAGAAGTCAGACCTGGAGAGGCAGCTGAAGA  
CTCTGACCAAGCAGATGAAGGAGGAGACCGAGGAATGGAGGCGGTTCCAGGCGGATCTGCAGACCGCAGTGGTGG  
TGGCCAATGACATCAAGTGTGAGGCCAGCAGGAGCTGCGCACCGTGAAGAGGAACTGCTGGAGGAGGAGGAGA  
AGAATGCCCCGGTTGCAGAAGGAGCTGGGGGATGTGCAGGGCCACGGCAGGGTGGTCACCAGCAGAGCCGCCCTC  
CACCTGTGGATGAAGAGCCAGAGTCTCTGAGGTGATGCTGCTGGTTCGGTGGCTGGTGTCTGTGTTAGCAGAA  
CATCTCCAACACCCCCAGAGTCGGCAACCACCGTTAAGTCACTTATCAAGTCATTGACTTGGGACGCCAGGTG  
GAGCTGGACAGAATATTTCTGTCCATAAGACCCCCAGAAGTCCCTAAGTGGGATACCAAGTGAAGTGTGAGT  
CAGCTGCTGTCTCTCAATGCAGAGGCATTGACTTACAGCAGTGTGCGGCCAGCCAGCAGAGGGGTGACTCAAC  
GCTTGGACCTTCTGACCTTCCCTCTCAGATATTCTAAAGGGAAGGACTGAGACCCTGAAGCCAGACCCCCACC  
TCCGCAAGAGTCCCTCACTAGAGTCACTGAGCAGACCCCCGTCCTGTTGGGCTTTGGGGACACAAGACTGCTGAGTG  
CTTCCACCCGGGCATGGAACCACAAAGCAAACCTCAGTGTGGAAAGAAAAGACCCTCTGGCAGCCTTGGCCCCGGG  
AATACGGTGGTTCCAAGCGCAATGCTCTACTGAAATGGTGCCAGAAGAAGACACAAGGTTATGCGAACATTGACA  
TCACCAATTTTCAGCAGCAGCTGGAGCGATGGCCTGGCCTTCTGTGCTCTGCTCCACACCTACCTGCCTGCCACA  
TCCCCTACCAGGAGCTGAATAGTCAGGAGAAAAAGAGGAATCTCTTGTGGCATTGAAAGCGGCTGAAAGTGTAG  
GCATCAAACCCAGCCTGGAACCTCAGCGAGATGCTGTACACAGACCGGCCCGACTGGCAGAGTGTGATGCAGTACG  
TGGCCCAAATCTACAAGTACTTTGAGACGTAACCCCTGGAGGGCTGGGGCAGCCACCATTGCCACCTACTGCAGC  
TTTTCTGGAAGCGCCTGATTACTGTCCACTGACCTGCTCTGCCCACCACCCAGCTGCCTAGACTTCAAAGACA  
GGCTCAATCCAAGTGGACCAACACCCAAATAAGAAACAGAGTGGGTCCCACGATGTACCTGTCTGAAATGCAAAT  
GCAGCTGGACTGTAAATTGGGGACTCTTTGATCTCTTGTGGGATGCTTCTAAAGAGGGCAGCCTCCCTCCTTCCA  
GACCAAGACCCACACCCAGGCTTGTGTTGCTGATTATTTGGGTGGCTGAACGAACACATTATCTGCAGAAATT  
CAGACAAAGAACATCTCAAATCAGTCTTTTGGTTGCTGTTGTTAAAAATATCCCGGCTTTGCCTTTATGAAACC  
TTTGCCCTTGGCTGGGTGTGGTAGCTCGTGGCTGTAATCCAGCACTTTAGGAAGCCAAGGCAGTAGGATCGTTT

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**FIGURE 4752B**

GAGCCCAGGAGTTTCGAGGCTGCAGTGAGCTATGAGCATACCACTGCACTCCAGCCTGTGTGAAAGAGCCAGACCC  
TGCTC



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**FIGURE 4753**

MGNHSGRPEDPEPGAFTTTKRTGIPAPREFSVTVSRERSVPRGSPNPRKSVSSPTSSNTPTPTKHLRTPSTKPKQ  
ENEGGEKAALESQVRELLAEAKAKDSEINRLRSELKKYKEKRTLNAEGTDALGPNVDGTSVSPGDTEPMIRALEE  
KNKNFQKELSDLEENRVLKEKLIYLEHSPNSEGAASHTGDSSCPTSITQESSFGSPTGNQMSSDIDEYKKNIHG  
NALRTSGSSSDVTKASLSPDASDFEHITAETPSRPLSSTSNPFKSSKCSTAGSSPNSVSELSLASLTEKIQKME  
ENHHSTAEELQATLQELSDQQQMVQELTAENEKLVDEKTILET SFHQHRERAEQLSQENEKLMNLLQERVKNEEP  
TTQEGKIIIELEQKCTGILEQGRFEREKLLNIQQQLTCSLRKVEEENQGALEM IKRLKEENEKLNFLERHNNN  
MMAKTLEECRVTLGLEGLKMENGLKSHLQGEKQKATEASAVEQTAESCEVQEMLKVARAEKDLELSCNELRQELL  
KANGEIKHVSSLLAKVEKDYSYLKEICDHQAEQLSRTSLKLQEKASESDAEIKDMKETIFELEDQVEQHRVAVKLH  
NNQLISELESSVIKLEEQKSDLERQLKTLTKQMKETE EWRRFQADLQTAVVVANDIKCEAQQELRTVVRKLLLE  
EEKNARLQKELGQVGHGRVVT SRAAPPPVDEEPESSEVDAAGRWP GVCVSR TSPTFPESATTVKS LIKSFDLGR  
PGGAGQNISVHKTPRSPSLGIPVRTAPAAVSPMQRHSTYSSVRPASRGVTQRLDLPDLPLSDILKGR TETLKP  
PHLRKSPSLESLSRPPSLGFGDTRLLSASTRAWKPQSKLSVERKDPLAALAREYGGSKRNALLKWCQKKTQGYAN  
IDITNFSSSWSDGLAFCALLHTYLPAHIPYQELNSQEKKRNLLLAFAEAE SVGIKPSLELSEMLYTDRPDWQ SVM  
QYVAQIYKYFET

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**FIGURE 4754**

CGCGGTGCCCTTTTGAGCTCCTTGTCCACGCTCCGCCCCCTGTGGGAACGGCCGCGCTCCCCGCAGCTGGTCATCCG  
CCGCCTGCCTCCGGGCTCACCAGGAGCAGCTGGAGGAGCAGCTGCGCCCGTTGCCAGCACACGACTACTTCGA  
GTTCTTCGCGCCGACCTGAGTCTTTATCCTCATCTCTACTCAAGAGCATAACATTAATTTTAGGAATCCTGATGA  
CATCCTTCTTTTAGAGATCGTTTTGATGGGATATATCTTCCTTGACAGCAAAGATCCAGAATATAAGAAGTTTT  
TAGAAACCTACTGTGTGGAGGAAGAGAAGGCCAGTGCCAACCTGAGACTCTGCTGGGGGAGATGGAGGCGAAGA  
CAAGAGAGCTCATTGCTAGAAGAACCACACCTCTTTTGGAATATATTAATAAGAAATTAGAAAAGCAGAGAA  
TTCGAGAAGAGAAGCGAGAAGAACGGAGGAGGAGAGAGTTAGAAAAGAAACGTTTGCGGGAAGAGGAAAAAGAA  
GAAGAAGAGAAGAAGAAAGATGCAAAAAAAAAAAGAGAGACAGATAAACAGAAGAAAATTGCAGAGAAAGAAGTA  
AGGATTAAGCTTCTTAAGAAACCAGAAAAGGGAGAGGAACCAACCACAGAGAAACCAAGAAAGAGAGAGGAG  
ATTGATACTGGAGGTGGCAAGCAGGAATCCTGTGCCCCCGGTGCAGTCGTAAAGCCAGGCCCGTGGAAGGCTCG  
CTGGAGGAGCCCCAGGAGACGTACACAGCGGCAGTGATAAAGAGCACAGGGATGTGGAGAGATCTCAAGAACAA  
GAATCTGAAGCACAAAGACACCATGTGGATGATGGCAGGAGGCACAGAGCTCACCACGAGCCTGACCGGCTTTCC  
AGAGGGAGTGAGGATGAGCAGAGATGGGGGAAAGGACCTGGCCAAGACAGAGGGAAGAAGGGGAGCCAGGACAGC  
GGGGCTCCGGGGGAGGCCATGGAGAGACTGGGAAGAGCGCAGAGGTGTGACGACAGTCCAGCACCCAGAAAAGAG  
CGACTGGCAAACAAGGACCGGCCAGCCTTGACAGCTGTATGATCCAGGAGCTCACTTCCGAGCGCTAGAGTGTGGC  
GGAAACAGGAGGATCTGCAAGGCAGAAGGTTGCGGGAACCTGGTCTGAGAAGAGGGAAGAGGCAGAGTGAGTCACT  
GCACGCACCTGGCCTCCATGGACGAGCGAGGGCATCCAGAAACGTGTAAATGACCCCGAGTGTGACTGGGAAGG  
AGAACTTATTCCTTACCAGGAACTGGAAGCTAAACTACAGAGGGTGACATAGAAACACGCAGAAACCATTCTA  
AAGAAAGTAGTGATCTTGTATTAAATTGAGCAGAATTCTCACAGATTTTACCATTCTGTATAAACTAGTATTT  
GTTGTTTAGCCAAAACAGAAAATGATTTCCACTGGACAGTAGAAAAATATGTGTAAATAGGGAAGAAAGTTAGT  
ATTGGATCAGTGTGAGTCTGAAGCACTTTTCACTGCTGTGAGAACGACATCCACTTTGGGTTTCATTCTGTTTGT  
AGCAGAGGAGCTGTGAGTCACTCGTGCTTCTCGTTGGCCTCTGAGCCATGGTGTCGAGTGAAGAGTAGTTCTTGT  
TTGTTACAACCTTTGTGAGTCAGCCATGCCTGCAAAGTGTGCTGTGTTTTAGTCCCTGGTAGGAATATTTATCAGA  
GTTACACTATATAAAACCCAACAGCTTCAACTATTGCCCTTTCAACAGTTTTGCCACTGACCGGATAAAAACGG  
TTTCAGTCTTTGGATGGATGTGTTTGTGGTTTGTAAACATTACGGTTTAAACCATGGTTTAAGAATTTGCCCAA  
TAACAGAAATTTTGTTCGGGAAGGGATAAACGAGATATAGCATATAGAGCCTGTTTTTGTAGTTTTAGATACTTTA  
TTTGTAATAACTTAAATAGCTTTCTGAAACCGTGCAATTCTGTAGTTTTCTTCCTTTTCACTGAAATTGCTAAATG  
TGAATGTATTTTGGCACTGCGATTTTAACCATTTATTAAATAAAAAATTTTGTAAAG

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**FIGURE 4755**

GTAAGACACCTTTGCAGTCCTTCCTGGGAATCGCTGAGCAGCACGGGGGCCCCAAAATGGGACCCTGATCACTC  
AGACTCTGAGCCAAGCCAACCCCACTGCCATCACTGCAGAAGAATACTTCAACCCCAACTTTGAGCTGGGCAACC  
GTGATATGGGCCGCCCCATGGAAGTACCACCAAGACACAGAAGTTCAAGGCCAAGCTGTGGCTGTGTGAGGAGC  
ATCCCCTGTCCCTGTGTGAGCAGGTGGCCCCCATCATTGACCTCATGGCCGTCAGCAATGCGCTTTTTTGCCAAGC  
TCCGGGACTTCATCACCTGCGTCTGCCTCCTGGCTTCCCAGTTAAGATTGAAATCCCAGATCTTCCACATCCTCA  
ACGCCCCGATCACCTTCGGGAACCTCAACGGCTGCGACGAACCGGTGCCATCGGTGCGAGGCAGCCCCAGCAGCG  
AGAGCGCTTCCCCAGGCAGCGACTCCTCCAGCGTCAGCAGCTCCAGCTCCACGACCTCCTGXCCGCGGCTGCGAG  
ATCTCCCCAGCGTTGTTTCGAGGCCCCGCGCGGCTACAGCATGATGGGCGGCCAGCGGGAGGCGGCGACCCGGGAC  
GACGACGACGACCTGCTGCAATTGCGCATCCAGCAGAGCCTGCTTGAGGCGGGCAGTGAGTATGACCAGGTCACC  
ATCTGGGAGGCGCTAACCAACAGCAAGCCAGGCACCCACCCCATGTCTTACGAGGGTCGCCGACAGGACAGGAGC  
GCCCCGCCCACGCCGAGCGCCAGCCTGCGCCCCCGGCGTCAGTGCCCAGCCCTCGGCCAGCTCAGGGCCAGGT  
TCCGGCGGCCACGTGTTCCGGAGCTACGACGAGCAGCTGCGGCTGGCGATGGAAGTGTGCGCGCAGGAGCAGGAG  
GAGAGGCGGCGGCGCGCGGCCAGGAGGAGGAGGAGCTGGAGCGCATCCTGAGGCTCTCACTGACCGAGCAGTAG  
CGCCCCCTGCCGGGACCCTCGCCAGCGCCACGCGCGCCACGCCAGGGCCAGGAGCCAGACAAACCCCGGCTGC  
GCGCCTGCAGAGCGGCGGCTGGAGACTGGAGCCACCGCCTCGCGGGTGCAGCAGCACAGCAGGCACGGTTCCGGGG  
AGGGATTGCGCATGGCCGCGGGGTACCTTCCCAGGCCAGGGCCCTGGAGGCAACTGGCACGGCTGGTCCCCCTG  
CTTTGCTGTATTCTGATTCCCCAACCCGCTCCCCCTGGGCTCAGATCTGTCTTCTAGGGCGGAGCCAGGCGGT  
CCTGAGGGGGAGATGAATCCTTAGAGGAGCGCTGTCCCTATCCCTTGCTCCTTCTGGCCGGTCCGCATTTCTGTT  
CACTAACCCCACTCCAGGACACTGCCCCCTGAAGCCTTTGCATCTCTGCTCTTCACTCCTGGGGGGCAGCTGAGCT  
CCCCGCGTGCTGTGTCACTGCTTTGTTCCAGACACAAACCAGCACGTCTAGGGCCCAGCCCCTCCCCACCCCGG  
CATTTACAGCGTCAAGTGCACTTAGCGGGGTACCCGGCTCCCCCAGCCCCCACACCCGTCTGGGTCTCAGGGTGG  
TTCCAGCTTCTCCTTGGGCAGCCAGAAGTTGGAGTCCCATCCCCCAAGGCACATTTTTTTTTTTTTTTTTTTGTG  
ATCAGGGAGTGTGTCCAACGTAGCCCCCTGGCCTGTGCAAGCCCTGACTCCCTCATGGTGCCTCGGAGAGTGGGG  
AGCATATTGGGCTGGGGTAAGCACTAGACCCAAGTAGACTGGACACAAAGGGCTCGCCCAGGGCCCTGGCGCCAC  
CCCCACCCCTTCCCACCAGCTGCTGCTAGCCTCTGTGGTTGTACATCCCACTTGCCCCCACACGGAGACTGACTC  
TAAAACCCCTTCATCCAATGGTGCTAACCCCCGGCTCTCCCTGCCCCACCTCACCCACCCAGAGAAGCACAGACC  
CCGCCAGGGGCAGGGGCCACCGCACACCCTTGTCCCGGGCCTGTCTGGGACTGGCCTTCCCGGCTCAGCCAGTG  
AGGCTCAGAAGGGACACAAAGAGGGATGGAAGAAAAGAACAAAGAGAACTGTTTCTCCACCCCTTCCCTGAT  
GCCAGGGGCACCAGACTGATTCTGAGGCACAAATAAAAGAGGCTTCATACCGG

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**FIGURE 4756**

MTWQRGNRSFVFRGQDTSVVMEIDHRRVVYTETLALAGQDRELLAAAQPTTEEQVLSRLTAPVVTTQLDTKNI  
SFERNKTGILGWRSEKTEMVNGYEAKVYGASNVELITRTRTEHLSEQHKGKVKGCKTPLQSFLGIAEQHGGPQNG  
TLITQTLSQLANPTAITAEYFNPNFELGNRDMGRPMELTTKTQKFKAHLWLCEEHPLSLCEQVAPIIDLMAVSNA  
LFAKLRFITLRLPPGFPVKIEIPIFHILNARITFGNLNGCDEPVPSVRGSPSSETPSPGSDSSSVSSSSSTTSC  
RGCEISPALFEAPRGYSMMGGQREAAATRDDDDLLQFAIQQSLLEAGSEYDQVTIWEALTNSKPGTHPMSYEGRR  
QDRSAPPTPQRQPAPPASVPSRPSSGPGSGGHVFRSYDEQLRLAMELSAQEQEERRRRARQEEEELERILRLSL  
TEQ

**FIGURE 4757**

[illegible]

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**FIGURE 4758**

AGCCCTCGCGGGGGCAAGGCGGCGACCGAGGCGCGTGGGTCTGGGAAGGCGCGCGGATTTGGCCCCCTCTTCTCAC  
ATCAGCGGGTCCAGGCCCAACCGACAGACTATGGGGGCTCCGGCAACCAGGCGCTGCGTGGAGTGGCTGCTGGGC  
CTCTACTTCCTCAGCCACATCCCCATCACCTGTTTCATGGACCTGCAGGCGGTGCTGCCGCGCGAGCTCTACCCA  
GTCGAGTTTAGAAACCTGCTGAAGTGGTATGCTAAGGAGTTCAAAGACCCACTGCTACAGGAGCCCCCAGCCTGG  
TTTAAGTCCTTTCTGTTTTGCGAGCTTGTGTTTCAGCTGCCTTTCTTTCCCATTTGCAACGTATGCCTTCCTCAA  
GGAAGCTGCAAGTGGATTTCGAACTCCTGCAATCATCTACTCTGTTTCACACCATGACAACCTTAATTCCGATACTC  
TCCACATTTCTGTTTGAGGATTTCTCCAAAGCCAGTGGTTTCAAGGGACAAAGACCTGAGACTTTGCATGAACGG  
TTAACCTTGTGTCTGTCTATGCCCCCTACTTACTCATCCATTTCATACTTTTAATTTTCATGTTGCGGAGCCCC  
TACTACAAGTATGAAGAGAAAAAGAAAAAATGAAGGAAACAACCACTGGCCCAGGGTAGAGATGCCTACAGG  
GTGGTTGCTTGTGGATACAATACAAGGAACACTGCTCAGAACCCACGTCTTCAGCAGCATTTGAAACACTGGCA  
GCAATGCACAAGAGCAAGATGGTGTGTCAGGAACCATGTCAAACCTCACCTTCTTCCATTTTTTTTTTTTTTTAA  
GACAGTCTCACTCTGTTGCCAGGCTGGAGTAAAGGGCAGTGGCATGATCTCGGCTCACTGCAACCTCCGCCTCC  
TGGGCTCAAGCCATCTTCCCTAGCCTCCCAAGTAGCTAGAACTACAGGTGTGTACCAACACGTATGGCTAATTTG  
TTTTGTTTTTTTTGTGTGTGTGGAGACAGGGTTTTGCCATGTTGCCAGGTTGGTCTCGAACGCCTAGGCTCAAG  
TGATCTGCCACCTCAGTCTCCCTAAGTGTGGGATTACAGACGTGAACCACTGGGCCCAGCCCAAACCTTCACC  
TTCTAAGGGCACTGGGATGAACAGACCGATCGGCTTGAGGGTGGGCAAAGGGGTGTGGGCTAGGTTATAAGGAAG  
TGGTACCAAATAACTGTGTGCCTGAGTTCACCGCAAGATTACTAAAAGCAGGACCAGACCAGAACTGCTAAAG  
AACATGGCCTGTTTGACATGTTTCATGAGTCACCTGACCCACAGCATATATGCTTATGACTAAACCTCCACTCCT  
GATTCTCAAGAGTGTATCACCTGTCAGCAAAATGAATAGTGGGATATTTTGGGCCATTTTAAATGTGAAATTTTG  
CCTCTTTAATGTTAATTCAAACCTATATCAATGTTTTCTTGTTCACCTCTAACCCAAGGAAAAAGAGAAAC  
ATACTATGCAAAGGAAGTTTAACTTAAGTTTTCTTAAGGGTCAGCCCAACAATGACTTTTCAGTCAAATGGATT  
AAACTGGAATGTTTTGTTTCTGTTGTAAACAGATCATCCTAGGCGAAAGTTTTTTTTGTTTGTGTTGCTTTTA  
AATTAGTTTATTTCTAAATCTTAGTCTTCCACATTTCTAGAGGCCACCTGACACAAGTCCCTGTATCTGAAGTCT  
AGCATCTCAAGGCTGATCTGGAAGTGTGCTAGTATGCTCCCTAGTGGATAACTTAATCTTTTAATACAGTTCCGT  
CATTCCCATCTTGTTCAGAAAGAGAAGGTGGCTACAGCCAGGCATAACATATCCACTGTGTGCATAGAGGGTCT  
CTTCACGTTGATGCTTGGCATTCCATCAGCTTTCTCTAAGTCTTTGCTCAAGTTCAACCTTAAATGATGTTAGA  
CAACAGGTCCCAGTCAGTTCCTCTATTTTCAACCATTTTGCTCACAAGCCATATTGGCCCGATTAGTGGTACTG  
TCTGACTCACGTGTGTGATCCAAATAAAGGTAGCTGCTG

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**FIGURE 4759**

MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLOQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFFKTVS  
LCCPGWSKGQWHDLGSLQPPPPGLKPSSLASQVARTTG VYQH VWL ICFVFFVCVETGFCHVAQVGLERLGSSDLP  
TSVSLSAGITDVNHWAQPKPSPSKGTGMNRP IGLRVGKGVWARL

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**FIGURE 4760**

GCCACCCAGCTGAGAGGAGAGGGCGCCCCGGGGACGCACTGAGATTATGAGGCTCTGGCCTCCACTGGCCACTCA  
CTCGTGACCCCTTTCCACCACGGCGGAGCCTTCCAAGCCTACCTCCTGCCGTGTGGTGATCTACCTGCAGCGGGAG  
ATGTCGGGGGACACCTGCCTGTGCCAGCCTCAGGGGCCAAGCCCAAGCTCAGTGGCTTCAAGGGAGGAGGGTTG  
GGCAACAAGTATGTCCAGCTCAACGTGGGCGGCTCTCTGTACTACACCACTGTGCGGGCCCTGACCCGCCACGAC  
ACCATGCTCAAGGCCATGTTTCAGTGGGCGCATGGAGGTGCTGACCGACAAAGAAGGCTGGATCCTCATAGACCGT  
TGTGGAAGCACTTTGGCACCATTTTGAATTACCTCCGAGATGACACCATCACCTCCCTCAGAACCAGGCAAGAA  
ATCAAGGAATTGATGGCTGAAGCAAAGTATTACCTCATCCAGGGGCTGGTGAATATGTGCCAGAGTGCCTGCAG  
GACAAGAAGGACTCCTACCAGCCTGTGTGCAACATCCCCATCATCATCCCTAAAGGAGGAGGAGCGGCTCATC  
GAATCCTCCACCAAGCCCGTGGTGAAGCTGCTGTACAACAGAAGCAACAACAAGTATTCCTACACCAGCAACTCT  
GACGACCACCTGCTGAAAAACATCGAGCTGTTTGACAAGCTCTCCCTGCGCTTCAACGGCCGCGTGTCTTTCATC  
AAGGATGTCAATTGGTGACGAGATCTGCTGCTGGTCCTTTTATGGCCAGGGCCGTAAGCTGGCAGAGGTGTGCTGT  
ACCTCCATCGTGTATGCCACGGAGAAGAAGCAGACCAAGGTGGAATTCCCAGAGGCCCGAATCTATGAGGAGACA  
CTCAACGTCCTACTCTATGAGACTCCCCGCGTCCCCGACAACCTCCTTGTGGAGGCCACAAGCCGTAGCCGACG  
CAGGCTTCCCCCAGTGAAGATGAGGAGACCTTTGAACTGCGGGACCGTGTCCGCGCATCCACGTCAAGCGCTAC  
AGCACTTACGATGACCGGCAGCTCGGCCACCAGTCTACCCATCGCGACTGACCAGACCCTCAGGGAGTCAGGGCA  
CGGGAGGCCCTATCTCCCATCCTGTGGAACCCGCCCATTTGGCCACCCCATGCTGCTGCTGCCTGGGTCTCTGCT  
CTAGACCCAGAGGCATGACAGGCCCTGCTCAGAGGTGAGAGGTCTGGGCAGAGGAGGGACCACATTCCCCTGC  
CTTGCCCTGAGCACTTCTGGAGACTGCGTCTGTCTATCTGCTCACCATCACCTTCTGCCCCGACGGAGCTG  
CTTCTGCTCCCTGGGGCATATGGACTGACCCACCTCCTGCTGAGAACCCTCCCTAGGCCCTGTGCAGAAAGGCTA  
CTGCCCCCTTAGGCCTCAGCTGGGGGAAAGGCAGTTCTGGTGCTGTAGAGGCCCTGGTGCAGAAAGTGGGACGTCT  
TTTTCTTAAGGTGTTTAAAGCACAGGCTTGATAAGTTTGGTTTTTAAAAAATAATCTAGGAAATGAATAATTCTA  
AATCTAGTAATGAGGAACTGAGCATTCTTTTGCCTCCAGGGTGCCAAGACCCTACATATGACAGAACCCTTG  
GCCCTTCTCCATGCCTGTGGGATCTGTTTCTTTAAAGCACTTTGTACTGTTATTTCAGGAGGTGATAATCTCCTT  
GACCCATGTCTTTCTACCCTAATCCCCACTTCCCTGCAGAATCAATCTGAGGGAGGGGATAAAGAGGAAGCAATA  
AAAAAAAACATCCGACAGAGCAGCTCTGGCTTTGCAGCCTGGCCAGCAGCTCAGAGTGCACCGAGGAGGGAAGG  
ATGGCTAAGCTGGGACCGGCAGTCTCACAGGGTGCTGTGAGAAAGGACATTTTACCCCCACATCATAGTCACA  
TCACTGACTCCTAGGTCTAGCACGACTGCTCTTTGTGATTCTCTTGAGTACCCTTGGCTTCCAGCCATGCTGTCC  
TCACATACGGTAAAGCCAAAGAGCTGTACATGGGCCAGAAACATGAGCCACGGCAGGAAGACCGTGGAGCCCGT  
GGGCACTGCATGGTGTGGCTGGCATGCCCATCAGCTGAGGACAGCAAACCTCCAGCAGCCCCCTACAGAGGTGGC  
ACATGCTTGGCCACACATCTACTCCCTGCCCACACCACTATGCTCTTGTTGGTGCTGGCTGGGATGGCGGTTT  
TGCCCACTGGTGTCTCTGAGCGCGGGATGACAGGAGCAACCGAAGCACCTTGAAGGCCTTCACTCCTTGTGGGT  
AACTCAGCCATGGAGATGCCAAGCACTAGCCAGGAGGTGAGTTCTCTTTAGGGCTTTGGTTTTTCATTCTTTTT  
GTTTGGCTTGGCCAAACCAGAATTCAGCTTATCTGAATTATTTTCCAAAGGAATGCTGTGAGGAGGAGTGTTC  
TGCCAGCCTAACAAAGCAACGTAGCCACGTATAGTACCCACTTTCTGCTCTTTGGAGAGAACACAGGTTATCAAG  
TTCATCTCTCTTGACTACTCTTATGATAGCTGATGCCACAGAGCCTATGGGCAAATGCCAGACCCAGGGTTAGAC  
ACAAGGACCTGAAGTGACATGACGGCGGGACAGGGGAAATGTGACTTCTAATTAGGCATTTTATGTTAGTCACA  
GTCTTGAATGTATAAACAGCACTAAGACTCTCAGGTGAGGTACCTTGGTGATCAGCTACTAGTTCTTCCAGCCCT  
CATTGAGGTAACAAGATAAAGACAAATCCACTTCTTTGGCCAAATTCAGGCTTTGGCTTTATGACTTTCCACAG  
AGACTGGAATGCGTCAGCCTGAGACCCTGGCCTATTTTCTCAGCTGCCCTCTTGGGTCTTTAAGCTCAAT  
TCCCAGCTCCCCACTGAGGTGTTGTGATGCTTGCCCTTTTGACCTCCCCATCCCCCTTAGTCCCTGCTTACTACTT  
TGACATTACATCCTCAGTGTCTCAGTCTTTTTTGGCGAGAAAGCACAGTAGTCTGGGACTGGGCATTTATCTTC  
TCTGACTGAAAATCTCTCCTTGGTCTTAAGGAAAATACTAACATTGAACTCACTGACATGATCTTAGCTTCTTTA  
ATCAGACTTTGTGACTTAAAAGTTTGGGGGTTTTCTTTGAAAGTTTCCAGCCCTATTTCAGAAAGCAACTCTTGGC  
TGTGTGCATTTTTCAACTCCAAGCAGCCAGGGGTAAGTAAACAAAGTATGGATGAAGGTCAGATTTTCTTGTCA  
GTTTTCTGAGAAACCTGGCAGCCTGCTGTTAACAACACAGGCCAGTATTGGGTTTTATTGAATTTGGTATGTGACC  
AAGGTGCGCCTAAAGGATGGCGCAGGTCTGGGCAGGAAAGAATTTTTCTTTATCACATAACTGTAATATTTGG  
TTGCTCAGCATAAGTGATGGAAGCAAACACTAATTTCTAATAAAATTGTGTTAAACTC



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**FIGURE 4761**

CCGCGGGTCGGGCTCTGTGTCAGCAGCCGGGCGGGCGCTCGGGCGGGACATGGCAGCCTGTACAGCCCGGCGGGC  
CCTGGCCGTGGGCAGCCGCTGGTGGTCCCGGTCGCTGACTGGGGCCCGGTGGCCAAGGCCGCTCTGTGCGGCGGC  
CGGAGCTGGAGCCTTCTCGCCAGCGTCGACCACGACGACGCGGAGGCACCTCTCGTCCCGAAACCGACCAGAGGG  
CAAAGTGTTGGAGACAGTTGGTGTGTTGAGGTGCCAAAACAGAATGGAAAATATGAGACCGGGCAGCTTTTCCT  
TCATAGCATTTTTGGCTACCGAGGTGTCGTCTGTTCCCTGGCAGGCCAGACTGTATGACCGGGATGTGGCTTC  
TGCAGCTCCAGAAAAGCAGAGAACCCTGCTGGCCATGGCTCCAAGGAGGTGAAAGGCAAAACTCACACTTACTA  
TCAGGTGCTGATTGATGCTCGTGAAGTGGCCACATATATCTCAGAGATCTCAGACAGAAGCTGTGACCTTCTTGGC  
TAACCATGATGACAGTCGGGCCCTCTATGCCATCCAGGCTTGGACTATGTCAGCCATGAAGACATCCTCCCCTA  
CACCTCCACTGATCAGGTTCCCATCCAACATGAACTCTTTGAAAGATTTCTTCTGTATGACCAGACAAAAGCACC  
TCCTTTTGTGGCTCGGGAGACGCTAAGGGCCTGGCAAGAGAAGAATCACCCCTGGCTGGAGCTCTCCGATGTTCA  
TCGGGAAACAACCTGAGAACATACGTGTCACTGTCACTCCCTTCTACATGGGCATGAGGGAAGCCAGAATTCCCA  
CGTGTACTGGTGGCGCTACTGTATCCGTTTGGAGAACCTTGACAGTGATGTGGTACAGCTCCGGGAGCGGCACTG  
GAGGATATTAGTCTCTCTGGCACCTTGGAGACAGTGCAGGCGGAGGGGTAGTGGGCAGGGAACCAAGTGTATC  
CAAGGAGCAGCCTGCGTTCCAGTATAGCAGCCACGTCTCACTGCAGGCTTCCAGTGGGCACATGTGGGGCACGTT  
CCGCTTTGAAAGACCTGATGGCTCCCACTTTGATGTTCCGATTCTCCCTTCTCCCTGGAAAGCAATAAAGATGA  
GAAGACACCACCCTCAGGCCTTCACTGGTAGGCCAGCTGAGGCCCCAAGTGCCAGGCTTGGTCACCGGGAAGAA  
CAACTCTCATCCCACAATTGCTGCAGAACTCTTCTCTCCCCATCATGGGCCACAGTGGGTCTCTTAATTTGATTG  
TGGGGTTCTTTTGTGGGGAGGGGTGGTATAACTTTTCTTTCAGAAGACCCATGTGGGACACCTCCAAGGCTGGCC  
TCCTCATAAGCCCTGCCTACACCATGTTCCAGTAAACCTCTCCACCAAGGAACGTGTGTTTCACTGCCACAGGCCT  
GGAGGAGTTTCTTGGCCTGTCACGTGAGGTTTGTATCAGTAAACCAAGTGCACGCTTGGCCACCCTTGCCATTTCTG  
CTCCAGAGTCTCAGGCTCCCTTCTGACCCAGTGTGCGCCCTTGACTGCTTTCTTTGCTGCCCTTCCAGGGAGC  
TGCCCCCTTGGTAGGGCATGTGCCTGTTTCCCTCTCAGCCTGGAGGCTGGCTGGACATCTCTAGGGTCACTGTG  
CCTCTCAGCTAGTTGGCGGGGGTGTGGACTGGACTCTTGTTCACTTTACCTTCTGCCAAATGCAGAGAGGGAGG  
CCAGTGTCAAGGTCGGAGTGGCCTGGCTCTTAGCACTGACCGACCATTGCCATTTCTGGCCTCGCTAGGCCCAGG  
AGAGGAGGGAGGCAAGCCAGTCGGGTTTCTGGAGCAATGGGTGTGCCAGCCCTCAGCATGACTCTGCCAAGCAT  
CCAGACCACAAATGCAGGAATTTGGCTGAGGAGCAGCTTTAGGTATGGATTGATGACTAAGTCAAGCTACTTCTT  
GAGCTTCTCTCAGATTTCCAAGAGCCAGAGATGAATTGTGCTGCATCTTGCCCCAATTCTTAGGATTTCTTTCC  
TCCGCCACTGCAGTGATTGTTAGAGGTAGTTTTCTTGAATTAATATTAAATCACAGTTCAGCCCTGTAAAAAA

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**FIGURE 4762**

MAACTARRALAVGSRWWSRSLTGARWPRPLCAAAGAGAFSPASTTTTTRHLSSRNRPPEGKVLETVGVFVFPKQNG  
KYETGQLFLHSIFGYRGVVLFPWQARLYDRDVASAAPEKAENPAGHGSKEVKGKTHYYQVLIDARDCPHISQRS  
QTEAVTFLANHDDSRALYAIPGLDYVSHEDILPYTSTDQVPIQHHELPERFLLYDQTKAPPFVARETLRAWQEKNH  
PWLELSDVHRETTENIRVTVIPFYMGMREAQNSHVYWWRYCIRLENLSDVVLRLRERHWRIFSLSGTLETVRGRG  
VVGREPVLSKEQPAFQYSSHVSLQASSGHMWGTFRFERPDGSHFDVRIPPFSLKDEKTPPSGLHW

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**FIGURE 4763**

CAATCATGGATCAATAGCTATGTTTGGAGAAGGAATTTGTGGCTGCTCCAGCTACTGGGCATTTTGTCTGGTCCA  
GTTTCATGTAATCTCCCAACACCCCATGAAGCAAGGCTTTGTTAATCCTATTTTACTGAAAATGAACTAAGACTCA  
GAGAGATAAAGCTGTTGCCCAATGAGCCTTCTTTCTGCCCTCCAGATCCACGGTGCTAATTCCCCTTCCGATGAC  
CTAATGATTCTGAGCTTGGCAAAGGTCTTATCTCCCAGCTCGCCCAGGCCAGTGTTCCAGGAATGTGACCTTTG  
CTGCAGCAGCCGCTGGAGGGGGCAGAGGGGATGGGCTGGAGGTTGAGCAAACAGAGCAGCAGAAAAGGCAGTTCC  
TCTTCTCCAGTGCCCTCCTTCCCCTGTCTCTGCCTCTCCCTCCCTTCCTCAGGCATCAGAGCGGAGACTTCAGGGA  
GACCAGAGCCCAGCTTGCCAGGCACTGAGCTAGAAGCCCTGCCATGGCACCCCTGAGACCCCTTCTCATACTGGC  
CCTGCTGGCATGGGTTGCTCTGGCTGACCAAGAGTCATGCAAGGGCCGCTGCACTGAGGGCTTCAACGTGGACAA  
GAAGTGCCAGTGTTGACGAGCTCTGCTCTTACTACCAGAGCTGCTGCACAGACTATACGGCTGAGTGCAAGCCCCA  
AGTGACTCGCGGGGATGTGTTCACTATGCCGGAGGATGAGTACACGGTCTATGACGATGGCGAGGAGAAAAACAA  
TGCCACTGTCCATGAACAGGTGGGGGGCCCCCTCCCTGACCTCTGACCTCCAGGCCAGTCCAAAGGGAATCCTGA  
GCAGACACCTGTTCTGAAACCTGAGGAAGAGGCCCTGCGCCTGAGGTGGGCGCCTCTAAGCCTGAGGGGATAGA  
CTCAAGGCCTGAGACCCCTTCATCCAGGGAGACCTCAGCCCCCAGCAGAGGAGGAGCTGTGCAGTGGAAGCCCTT  
CGACGCCTTCACCGACCTCAAGAACGGTTCCCTCTTTGCCTTCCGAGGGCAGTACTGCTATGAACTGGACGAAAA  
GGCAGTGAGGCCTGGGTACCCCAAGCTCATCCGAGATGTCTGGGGCATCGAGGGCCCCATCGATGCCGCCTTCAC  
CCGCATCAACTGTTCAGGGGAAGACCTACCTCTTCAAGGGTAGTCAGTACTGGCGCTTTGAGGATGGTGTCTGGA  
CCCTGATTACCCCCGAAATATCTCTGACGGCTTCGATGGCATCCCGACAACGTGGATGCAGCCTTGGCCCTCCC  
TGCCCATAGCTACAGTGGCCGGGAGCGGGTCTACTTCTTCAAGGGGAAACAGTACTGGGAGTACCAGTTCAGCA  
CCAGCCCAGTCAGGAGGAGTGTGAAGGCAGCTCCCTGTGCGCTGTGTTGAACACTTTGCCATGATGCAGCGGGA  
CAGCTGGGAGGACATCTTCGAGCTTCTCTCTGGGGCAGAACCTCTGCTGGTACCAGACAGCCCCAGTTTCATTAG  
CCGGGACTGGCACGGTGTGCCAGGGCAAGTGGACGCAGCCATGGCTGGCCGCATCTACATCTCAGGCATGGCACC  
CCGCCCCCTCCTTGGCCAAGAAACAAAGGTTTAGGCATCGCAACCGCAAAGGCTACCGTTTACAACGAGGCCACAG  
CCGTGGCCGCAACCAGAACTCCCGCCGGCCATCCCGCGCCATGTGGCTGTCTTGTCTCCAGTGAGGAGAGCAA  
CTTGGGAGCCAACAACCTATGATGACTACAGGATGGACTGGCTTGTGCCTGCCACCTGTGAACCCATCCAGAGTGT  
CTTCTTCTTCTCTGGAGACAAGTACTACCGAGTCAATCTTCGCACACGGCGAGTGGACACTGTGGACCCTCCCTA  
CCCACGCTCCATCGCTCAGTACTGGCTGGGCTGCCAGCTCCTGGCCATCTGTAGGAGTCAGAGCCCACATGGCC  
GGGCCCTCTGTAGCTCCCTCCTCCCATCTCCTTCCCCCAGCCCAATAAAGGTCCCTTAGCCCCGAGTTTAAA

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**FIGURE 4764**

MAPLRPLLILALLAWVALADQESCKGRCTEGFNVDKKQCDELCSYYQSCCTDYTAECKPQVTRGDVFTMPEDY  
TVYDDGEEKNNATVHEQVGGPSLTSDLQAQSKGNPEQTPVLKPEEEAPAPEVGASKPEGIDSRPETLHPGRPQPP  
AEEELCSGKPFDAFTDLKNGSLFAFRGQYCYELDEKAVRPGYPKLIRDVWGIEGPIDAAFTRINCQGKTYLFKGS  
QYWRFEEDGVLDPDYPRNISDGFDPDNVDAALALPAHSYSGRERVYFFKGKQYWEYQFQHQPSQEECEGSSLSA  
VFEHFAMMQRDSWEDIFELFWGRTSAGTRQPQFISRDWHGVPGQVDAAMAGRIYISGMAPRPSLAKKQRFHRN  
RKGYSQRGHSRGRNQNSRRPSRAMWLSLFSSEESNLGANNYDDYRMDWLVPATCEPIQSVFFFSGDKYYRVNLR  
TRRVDTVDPPYPRSIAQYWLGCAPAGHL

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**FIGURE 4765A**

ACAGACGGCGGGTGAACATGGCGTCTCTGACTTGGTCTGAGACGTGATAGGCCTGCCTTCTGGTTGAAGATGTGG  
CGAGTGAAAAAACTGAGCCTCAGCCTGTCGCCTTCGCCCCAGACGGGAAAACCATCTATGAGAACTCCTCTCCGT  
GAACTTACCCTGCAGCCCGGTGCCCTCACCAACTCTGGA AAAAGATCCCCCGCTTGCTCCTCGCTGACCCCATCA  
CTGTGCAAGCTGGGGCTGCAGGAAGGCAGCAACAACCTCATCTCCAGTGGATTTTGTAAATAACAAGAGGACAGAC  
TTATCTTCAGAACATTTTCACTCATTCTCAAAGTGGCTAGAACTTGTGAGCATGAATCAGATGAGCAGCCTCTA  
GATCCAATTCCCCAAATTAGCTCTACTCCTAAAACGTCTGAGGAAGCAGTAGACCCACTGGGCAATTATATGGTT  
AAAACCATCGTCTTGTACCATCTCCACTGGGGCAGCAACAAGACATGATATTTGAGGCCCGTTTAGATACCATG  
GCAGAGACAAAACAGCATATCTTTAAATGGACCTTTGAGAACAGACGATCTGGTGAGAGAGGAGTGGCACCCTGC  
ATGGGAGACAGGTTTTTCAAGAGTTGCTGCTGTATCTGAGAAACCTATCTTTTCAAGGAATCTCCGTCCCATCTCTTA  
GAGGAGTCTCCACCAAATCCCTGTTCTGAACAACCTACATTGCTCCAAGGAAAGCCTGAGCAGTAGAACTGAGGCT  
GTGCGTGAGGACTTAGTACCTTCTGAAAGTAACGCCTTCTTGCTTCTCTGTTCTCTGGCTTTCCCTTCAACT  
GCCTTGGCAGCAGATTTCCGTGTCAATCATGTGGACCCAGAGGAGGAAATTGTAGAGCATGGAGCTATGGAGGAA  
AGAGAAATGAGGTTTTCCACACATCCTAAGGAGTCTGAAACAGAAGATCAAGCACTTGTCTCAAGTGTGGAAGAT  
ATTCTGTCCACATGCCTGACACCAAATCTAGTAGAAATGGAATCCCAAGAAGCTCCAGGCCAGCAGTAGAAGAT  
GTTGGTAGGATTCTTGGCTCTGATACAGAGTCTTGGATGTCCCACTGGCCTGGCTGGA AAAAGGTGTAAATACC  
TCCGTCTATGCTGGA AAAATCTCCGCCAAAGCTTATCCCTTCCCTCGATGCTTCGGGATGCTGCAATTGGCACTACC  
CCTTTCTCTACTTGCTCGGTGGGACTTGGTTTACTCCTTCAGCACCACAGGAAAAGAGTACAAACACATCCAG  
ACAGGCCTGGTTGGCACCAAGCACAGTACTTCTGAGACAGAGCAGCTCCTGTGTGGCCGGCCTCCAGATCTGACT  
GCCTTGTCTCGACATGACTTGGAAGATAACCTGCTGAGCTCTCTTGTCAATTCTGGAGGTTCTCTCCCGCCAGCTT  
CGGGACTGGAAGAGCCAGCTGGCTGTCCCTCACCCAGAAACCCAGGACAGTAGCACACAGACTGACACATCTCAC  
AGTGGGATAACTAATAAACTTCAGCATCTTAAGGAGAGCCATGAGATGGGACAGGCCCTACAGCAGGCCAGAAAT  
GTCATGCAATCATGGGTGCTTATCTCTAAAGAGCTGATATCCTTGCTTACCTATCCCTGTTGCATTTAGAAGAA  
GATAAGACTACTGTGAGTCAGGAGTCTCGGCGTGCAAAACATTGGTCTGTTGCTGTTTTGATTGCTGAAGAAA  
TTGAGGGCAAAGCTCCAGAGCCTCAAAGCAGAAAGGGAGGAGGCAAGGCACAGAGAGGAAATGGCTCTCAGAGGC  
AAGGATGCGGCAGAGATAGTGTGGAGGCTTTCTGTGCACACGCCAGCCAGCGCATCAGCCAGCTGGAACAGGAC  
CTAGCATCCATGCGGGAATTCAGAGGCCTTCTGAAGGATGCCAGACCCAACCTGGTAGGGCTTCATGCCAAGCAA  
GAAGAGCTGGTTTACGACAGAGTGAAGTCTTACTTCTACCTTGCAACAAGACTGGAGGTCCATGCAACTGGATTAT  
ACAACATGGACAGCTTTGCTGAGTCGGTCCCGACAACCTCACAGAGAACTCACAGTCAAGAGCCAGCAAGCCCTG  
CAGGAACGTGATGTGGCAATTGAGGAAAAGCAGGAGGTTTCTAGGGTGCTGGAACAAGTCTCTGCCCAGTTAGAG  
GAGTGCAAAGGCCAAACAGAACTGGAGTTGGA AAAACAGTCGTCTAGCAACAGATCTCCGGGCTCAGTTGCAG  
ATTCTGGCCAACATGGACAGCCAGCTAAAAGAGCTACAGAGTCAGCATACCCATTGTGCCCAGGACCTGGCTATG  
AAGGATGAGTTACTCTGCCAGCTTACCCAGAGCAATGAGGAGCAGGCTGCTCAXXXXXXXXXXXGAAGAGATGGCA  
CTAAAACACATGCAGGCAGAACTGCAGCAGCAACAAGCTGTCTGGCCAAAGAGGTGCGGGACCTGAAAGAGACC  
TTGGAGTTTGCAGACCAGGAGAATCAGGTTGCTCACCTGGAGCTGGGTGAGTTGAGTGTCAATTGAAAACCACA  
CTGGAAGTGCTCCGGGAGCGCAGCTTGCAAGTGTGAGAACCTCAAGGACACTGTAGAGAACCTAACGGCTAAACTG  
GCCAGCACCATAGCAGATAACCAGGAGCAAGATCTGGAGAAAACACGGCAGTACTCTCAAAGCTAGGGCTGCTG  
ACTGAGCAACTACAGAGCCTGACTCTCTTTCTACAGACAAAACCTAAAGGAGAAGACTGAACAAGAGACCCTTCTG  
CTGAGTACAGCCTGTCTCTCCACCCAGGAACACCTCTGCCTAATGACAGGACCTTCTGGGAAGCATCTTGACA  
GCAGTGGCAGATGAAGAGCCAGAATCAACTCCTGTGCCCTTGCTTGGAAAGTGACAAGAGTGCTTTACCCGAGTA  
GCATCAATGGTTTTCCCTTCAGCCCGCAGAGACCCAGGCATGGAGGAGAGCCTGGCAGAAATGAGTATTATGACT  
ACTGAGCTTCAGAGTCTTTGTTCCCTGCTACAAGAGTCTAAAGAAGAAGCCATCAGGACTCTGCAGCGAAAAT  
TGTGAGCTGCAAGCTAGGCTGCAGGCCAGGAAGAACAGCATCAGGAAGTCCAGAAGGCCAAAAGAAGCAGACATA  
GAGAAGCTGAACCAGGCCTTGTGCTTGCCTACAAGAATGAAAAGGAGCTCCAGGAAGTGATACAGCAGCAGAAAT  
GAGAAGATCCTAGAACAGATAGACAAGAGTGGCGAGCTCATAAGCCTTAGAGAGGAGGTGACCCACCTTACCCGC  
TCACTTCGGCGTGCGGAGACAGAGACCAAAGTGTCTCAGGAGGCCCTGGCAGGCCAGCTGGACTCCAACCTGCCAG  
CCTATGGCCACCAATTGGATCCAGGAGAAAGTGTGGCTCTCTCAGGAGGTGGACAAAACCTGAGAGTGATGTTCTG  
GAGATGAAAATGAGAAGGAAAACCTCATGATCAAGTTCCAGAGCCATAGAAAATATCCTAGAGGAGAACCTTCGG  
CGCTCTGACAAGGAGTTAGAAAACCTAGATGACATTGTTTCAGCATATTTATAAGACCCTGCTCTCTATTCCAGAG

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**FIGURE 4765B**

GTGGTGAGGGGATGCAAAGAACTACAGGGATTGCTGGAATTTCTGAGCTAAGAACTGAAAGCCAGAATCTGCTT  
CACCTCTTTTTACCTGCAATACCCCTTACCCCAATACCAAGACCAACTGGCATAGAGCCAACTGAGATAAATGC  
TATTAAATAAAGTGTAATTAATG

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**FIGURE 4766**

MWRVKKLSLSLSPSPQTGKPSMRTPLRELTLOPGALTNSGKRSPACSSLTPSLCKLGLQEGSNSSPVDFVNNKR  
TDLSSSEHFSHSSKWLETCQHESEDEQPLDPIPQISSTPKTSEEAVDPLGNMVKTIIVLVPSPGLGQQQDMIFEARLD  
TMAETNSISLNGPLRTDDLREEVAPCMGDRFSEVAAVSEKPIFQESPSHLLSESPNPCSEQLHCSKESLSSRT  
EAVREDLVPSESNAFLPSSVLWLSPLSTALAADFRVNHVDPEEEIVEHGAMEEREMRFPHPKESETEDQALVSSV  
EDILSTCLTPNLVEMESQEAPGPAVEDVGRILGSDTESWMSPLAWLEKGVNTSVMLNLRQSLSLPSMLRDAAIG  
TTPFSTCSVGTWFTPSAPQEKSTNTSQTGLVGTKHSTSETEQLLCGRPPDLTALSRHDLEDNLLSSLVILEVLSR  
QLRDWKSQLAVPHPETQDSSQTDTSHSGITNKLQHLKESHEMGQALQQARNVMQSWVLISKELISLLHLSLLHL  
EEDKTTVSQESRRAETLVCCCFDLLKKLRACLQSLKAEREEARHREEMALRGKDAAEIVLEAFCAHASQRISQLE  
QDLASMREFRGLLKDAQTLVGLHAKQEELVQQTVSLTSTLQQDWRSMLDYTTWTALLSRSRQLTEKLT VKSQQ  
ALQERDVAIEEKQEVSRVLEQVSAQLEECKGQTEQLELENSRLATDLRAQLQILANMDSQLKELQSQHTHCAQDL  
AMKDELLCQLTQSNEEQAAQWQKEEMALKHMQAELQQQQAVALAKEVRDLKETLEFADQENQVAHLELGQVEQCQLK  
TTLEVLRRERSLQCENLKDTVENLTAKLASTIADNQEQLDLEKTRQYSQKLGLLTEQLQSLTLFLQTKLKEKTEQET  
LLLSTACPPTQEHPLPNDRTFLGSILTAVADEEPESTPVPLLGSDKSAFTRVASMVSLQPAETPGMEESLAEMSI  
MTTELQSLCSLLQESKEEAIRTLQRKICELQARLQAQEEQHQEVQKAKEADIEKLNQALCLRYKNEKELQEVIOQ  
QNEKILEQIDKSGELISLREEVTHLTRSLRRAETETKVLQEALAGQLDSNCQPMATNWIQEKVWLSQEVDKLRVM  
FLEMKNEKEKLMIKFQSHRNILEENLRRSDKELEKLDDIVQHIYKTLLSIPEVVRGCKELQGLLEFLS

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**FIGURE 4767**

CCTTTGCCCTTTGAGGCTCTGTGGCTGTGGGGCTGAGTGGCATCATGGCGGCTCAGAAAGATCTCTGGGACGCCAT  
TGTGATTGGGGCGGGGATCCAGGGCTGCTTCACTGCATACCACCTGGCCAAACACAGGAAGAGGATCCTCCTGCT  
GGAGCAGTTCTTTCTACCACTCCCGAGGAAGCTCCCATGGACAAAGCCGGATAATCCGAAAGGCGTACCTGGA  
AGACTTTTACACCCGGATGATGCATGAGTGTATCAGATATGGGCCCAGCTGGAGCACGAGGCTGGAACCCAATT  
GCACAGGCAGACTGGATTACTGTGCTGGAATGAAAGAGAATCAAGAATTAAAGACAATCCAGGCCAATCTGTC  
GAGGCAGAGGGTAGAACACCAGTGTCTTTCATCTGAGGAAGTGAAGCAACGTTTCCCAAATATTCGGTTGCCAG  
GGGAGAAGTGGGGCTCTTGGACAATTCCGGAGGAGTTATCTATGCATATAAGGCCCTCAGAGCCCTGCAGGATGC  
AATTGCACAGCTAGGAGGCATAGTGCCTGACGGAGAGAAGGTGGTGGAGATAAACCCAGGGCTACTGGTCACGGT  
GAAAACCACTCCAGGAGCTACCAAGCTAAGAGCTTGGTCATCAGCAGGTCCTTGGACCAACCAGCTCCTCCG  
TCCCCTGGGCATTGAGATGCCTCTCCAGACCCTGCGGATCAACGTGTGTTACTGGCGAGAGATGGTTCCTGGGAG  
CTATGGTGTGTCCAGGCCCTTCCGTGCTTCCTGTGGCTGGGCTTGTGTCCCCACCACATCTACGGACTGCCAC  
AGGAGAGTACCCAGGGCTGATGAAGGTCAGTATCACCACGGCAACCACGCAGACCCTGAGGAGCGGGACTGCCC  
CACAGCACGCACAGACATCGGAGACGTCCAGATCCTGAGCAGCTTTGTGAGAGATCACTTACCTGATCTGAAGCC  
CGAGCCTGTGTGTCATTGAGAGCTGCATGTACACGAATACCCCTGATGAGCAGTTCATTCTCGATCGCCACCCAAA  
GTATGACAACATTGTGTCATTGGTGTCTGGATTCTCTGGGCACGGGTTCAAGCTGGCCCCTGTGGTGGGGAAGATCCT  
GTATGAATTAAGCATGAAATTAACACCATCTTATGACTTGGCACCTTTTGAATCAGCCGTTTCCCAAGCCTGGG  
CAAAGCCACCTTTGACCTCTGGCCAGAAGCCTCCCTTCTGTGCACAGGAGCCAGTTTCACAGATGGAGAAGATG  
TCTCAGATGAAGGGAGTGTCCCTGAGATATCATCCTTTTCTTCTGCCTCGCTGAATCCCCCATAAACACCAGAT  
GATTGAGTCTACCTTCTTTCTTGGCCGCTCCCTTTTTCTTCTGCCTCACTTGAATCCCCCGTAAACACCAGAC  
GATTGAGTCTACCTTCTTTCTTGGCCACCTCCCCATTCACACTACTTTCTCGCTCCAGAAAGGTTGATCAGAT  
ATTCTACAATCACAGAGTAGCAAGGACGTTTGAGATGGGTATATCAGTAAGAAGAGGGCACAGAAGAACTGGCTCTG  
GAGACCAAGCAGTTGTTAAAAATTCTCTTTGCTGGGGGCCGGGTGTGGTGGCTCACACCTGTAATCTCGGCACT  
TTGGGGGGCTGAGACAGGCGGATCACCTGAGGCCAGGAATTCAAGACCAGCCTGGCCAACATGGTGAAACCTTAT  
CTCCACTAAAAATACAAAATTAGCTGGGTGTGGTGGCGCATGCCTGTAATCCCAGCTACTTGGGAGACTGAGGCA  
AGAGAATCACTTGAACCCGGGAGGTGGAGGTGGCAGTGAGCCGAGATTGCGCCATTGCACTCCAGCCTGGGCAAA  
AAGAGTGAGACTCTGTCTCAAAAAAAAAACAAAAACCTCTTTGCTGGTATATTTGAAGAGCTTGGGA  
TGGATTTGACTAAATCTGCCCCGAGGAGGTGAACAAGGTGATCTCAGAGATCACTACTGCTCTTGGAGTTCCTT  
CTCCTAAAGCTAAGGCCAGCCTCCATCACAATGCCCATAAAATCTGGCTCGTCTTTGATGAACAATAAATATTT  
GTTGAACAATAAATAACTGCCCTGC



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**FIGURE 4768**

GCTTGACCACTATGCTATCATCAAGTTTCCGCTGACCACTGAGTCTGCCATGAAGAAGATAGAAGACAACAACAC  
ACTTGTGTTCAATTGTGGATGTTAAAGCCAACAAGCACCAGATTAAACAGGCTGTGAAGAAGCTGTATGACATTGA  
TGTGGCCAAGGTCAACACCCTGATTCGGCCTGATGGAGAGAAGAAGGCATATGTTTCGACTGGCTCCTGATTACGA  
TGCTTTGGATGTTGCCAACAAGTAAGTTTCCTTCCTACAAACCCCTTAATGCTCACCCCTTGGGTGCAAATGAT  
GCATATGTTAGCGACCAAAGCCTGATCTTTGCTGATTAGTCATAATTAAGTACTGCTGCACCCCTATCCTTGACAAA  
CCTTATCCTCACATTCCTCATTGCTTT

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**FIGURE 4769**

TCAGTGAAGGAGTCTTCAAGTGCCCTGAGGACCAGCTTCCTCTGGACTATGCCAAGATCTACCCAGACCCGGAGC  
TGGAAGTACAAGTATTGGGCCTGCCTATCCGCTGCATCCACAGTGAGGAGGGCTGCCGCTGGAGTGGGCCACTAC  
GTCATCTACAGGGCCACCTGAATACCTGCAGCTTCAATGTCATTCCCTGCCCTAATCGCTGCCCCATGAAGCTGA  
GCGCCCGTGATCTACCTGCACACTTGCAGCATGACTGCCCAAGCGGCGCCTCAAGTGCGAGTTTTGTGGCTGTG  
ACTTCAGTGGGGAGGCCTATGAGAGCCATGAGGGTATGTGCCCCAGGAGAGTGTCTACTGTGAGAATAAGTGTG  
GTGCCCCGATGATGCGGCGGCTGCTGGCCAGCATGCCACCTCTGAGTGCCCCAAGCGCACTCAGCCCTGCACCT  
ACTGCACTAAGGAGTTCGTCTTTGACACCATCCAGAGCCACCAGTACCAGTGCCCCAAGGCTGCCTGTTGCCTGCC  
CCAACCAATGTGGTGTGGGCACTGTGGCTCGGGAGGACCTGCCAGGCCATCTGAAGGACAGCTGTAACACCGCCC  
TGGTGCTCTGCCCATTCAAAGACTCCGGCTGCAAGCACAGGTGCCCTAAGCTGGCAATGGCACGGCATGTGGAGG  
AGAGTGTGAAGCCACATCTGGCCATGATGTGTGCCCTGGTGAGCCGGCAACGGCAGGAGCTGCAGGAGCTTCGGC  
GAGAGCTGGAGGAGCTATCAGTGGGCAGTGATGGCGTGCTCATCTGGAAGATTGGCAGCTATGGACGGCGGCTAC  
AGGAGGCCAAGGCCAAGCCCAACCTTGAGTGCTTCAGCCCAGCCTTCTACACACATAAGTATGGTTACAAGCTGC  
AGGTGTCTGCATTCCCTCAATGGCAATGGCAGTGGTGAGGGGCACACACCTCTCACTGTACATTCTGTGTGCTGCCTG  
GTGCCCTTTGACAATCTCCTTGAGTGGCCCTTTGCCCGCCGTGTACCTTCTCCCTGCTGGATCAGAGCGACCCTG  
GGCTGGCTAAACCACAGCACGTCACTGAGACCTTCCACCCCGACCCAAACTGGAAGAATTTCCAGAAGCCAGGCA  
CGTGGCGGGGCTCCCTGGATGAGAGTTCTCTGGGCTTTGGTTATCCCAAGTTCATCTCCCACCAGGACATTTCGAA  
AGCGAAACTATGTGCGGGATGATGCAGTCTTCATCCGTGCTGCTGTTGAACTGCCCCGGAAGATCCTCAGCTGAG  
TGCAGGTGGGGTTCGAGGGGAAAGGACGATGGGGCATGACCTCAGTCAGGCACTGGCTGAACTTGGAGAGGGGGC  
CGGACCCCCGTAGCTGCTTCTGCTGCCTAGGTTCTGTTACCCCATCCTCCCTCCCCCAGCCACCACCCTCAGGT  
GCCTCCAATTGGTGCTTCAGCCCTGGCCCCCTGTGGGGAACAGGTCTTGGGGTCATGAAGGGCTGGAAACAAGTGA  
CCCCAGGGCCTGTCTCCCTTCTTGGGTAGGGCAGACATGCCTTGGTGCCGGTCACACTCTACACGGACTGAGGTG  
CCTGCTCAGGTGCTATGTCCCAAGAGCCATAAGGGGGTGGGAATTGGGGAGGGAGAAAGGGTAGTTCAAAGAGTC  
TGTCTTGAGATCTGATTTTTTCCCCCTTTACCTAGCTGTGCCCCCTCTGGTTATTTATTTTCCTTAGTGCCAGGAG  
GGCACAGCAGGGGAGCCCTGATTTTTTAATAAATCCGGAATTGTATTTATT

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**FIGURE 4770**

MPGFDYKFLEKPKRRLLCPLCGKPMREPQVSTCGHRFCDTCLQEFLSEGVFKCPEDQLPLDYAKIYPDPELEVQ  
VLGLPIRCIHSEEGCRWSGFLRHLQGHNTCSFNVIPCPNRCMPKLSRRDIPAHLQHDCPKRRLKCEFCGCDFSG  
EAYESHEGMCPQESVYCENKCGARMMRLLAQHATSECPKRTQPCTYCXLXXSSSLTPSRATSTSAQGCLLPAPT  
NVVWALWLGRTCQAI

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**FIGURE 4771**

GAGACTCGCCCGGCTCAACCCCGACGTCCGCGCCCCGGCCGCCTGTTGGCCATGGCGGGCCTGGGCCTGGGCTCC  
GCCGTTCCCGTGTGGCTGGCCGAGGACGACCTCGGCTGCATCATCTGCCAGGGGCTGCTGGACTGGCCCGCCACG  
CTGCCCTGCGGCCACAGCTTCTGCCGCCACTGCCTGGAGGCCCTGTGGGGCGCCCGCGACGCCCGCCGCTGGGCC  
TGCCCCACTTGCCGCCAGGGCGCCGCGCAGCAGCCGCACCTGCGGAAGAACACGCTACTGCAGGACCTGGCCGAC  
AAGTACCGCCGCGCCGCGACGCGAGATACAGGCGGGCTCCGACCCTGCCCACTGCCCCCTGCCCCGGGCTCCAGTTCC  
CTCTCCAGCGCGGCCGAGGCCCGCGCGCCCGCGGAAGTGCAGCGGGTGGCAGTAGAGAAGAGCATCACAGAA  
GTTGCTCAGGAGCTGACAGAGCTGGTGGAAACATCTTGTAGACATTGTCAGAAGCCTGCAGAATCAGAGGCCCTA  
TCAGAATCTGGACCAGACAACGAAGTGAAGCATCCTGGGCAAGGAGAACTCCTGGAAGCCCCGTCTTCTCCTCAT  
GCCCATTGCCTGACCAGAGCCACCCTGCACTCAGGAGAGCTTCTCGGTTTGCTCAGTGGGCCATCCATCCAACCT  
TTAACTTGAAGAGCCTTTCTCTGCAGCCTGGAGGTGTCCAAGGATTCCCGTACAGTGACTGTGTCTCACC GCCAC  
AACCTATCGCTGGAGCTGTGAGAGGTTTTCTACCAGCCAGGTCTTATGTTCCCAGGCCCTGTCTTCTGGAAAGC  
ATTACTGGGAAGTGGACACTAGGAATTGCAGCCACTGGGCAGTTGGGGTGGCTTCTGGGAGATGAGCCGCGACC  
AGGTCCTGGGAAGGACTATGGACTCTTGTGTGTGGAATGGAAGGGGACTAGCCAGCTCTCTGCATGGCACATGG  
TCAAGGAAACTGTCCTTGGCTCAGACAGACCTGGGGTGGTGGGCATCTGGCTGAACCTTGAGGAGGGAAAGCTTG  
CCTTCTATTAGTGGACAATCAGGAGAAGCTTCTGTATGAGTGTACCATCTCTGCCTCCTCTCCTTTGTACCCTG  
CCTTCTGGCTGTATGGCTTACATCCTGGAAAATTACCTGATAATAAAGCAAGTAAAGGTGTAAGGTTTCCTAAGGG  
ATTACAACACAGTGGTTTTCTGGTCTCTCTCCCTGTCATCAATCAGGGTAGTAAGTTGACTTAAGAATACCACTT  
TTTAGAAAAATTACGATAGAGATGGGATCTCACTAGGTTGCCCAGGCTGGTGTGCAATTCCTGGTCTCAAGCAGT  
CCTCCCACCTCAGCCTCCCAAGGTGCTGGGATTACAGGTGTGAGCCACCACACCTGGCCAAGAATACCACTTTTG  
AAGTTAATCCTTTTGTGTGATACAGGATGAAGTGGGATGTTTGAACCCTGGACATTCCAAATAAAGAATAGGCC  
CCTGCCTGGCTCCTGGGAGATAACCTCTAAGCCATTAGAATATCTTGCCTGATAAGAGTGTTTTTGTTTACCTGT  
GGGCCTTGGGCCATGCAGTATCAGCTTGACCTTGCAAGGTCAAGCTGAGGAGACTAAGTTAGCCATGTGGGCAGT  
GAAGCATGCCAATGTGATCAATCCCTAGTAAAAGCCCTGGACACCTAGGCATGGGTGAGCTACTCTGGTTGGTAA  
TACTCTGTGCACACATCATTGTAGCCACACATCATTGCTGGGAGAATTAAGCATTATCCTGAAGACTCTGCCAGG  
AGAGGATAATTGGAAGTTCTCTTGGACCTTACCTTATGTGCCTTTCTTCATTGCTGATTTTAATCTGTATCCTTT  
CACTGTAATAAACTGTAACCTATGAGTGCAA

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**FIGURE 4772**

MAGLGLGSAPVFWLAEDDLGCIICQGLLDWPATLPCGHSFCRHCLEALWGARDARRWACPTCRQGAAQQPHLRKN  
TLLQDLADKYRRAAREIQAGSDPAHCPCPGSSSLSSAAARPRRRPELQRVAVEKSITEVAQELTELVEHLVDIVR  
SLQNQRPLSESGPDNELSILGKENSWKPRLPPHAHCLTRATLHSGELLGLLSGPSIQPLT

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**FIGURE 4773A**

AGGTGGA AAAA CTTGTGAAATATTTGGATCCCAACGACCTGGGGAGAATCAACTTCAAGGACTTTTGCCGGGGGG  
TGTTCCGCCATGAAAGGGTGCGAGGAGCTGCTGAAGGATGTGCTGTCGGTGGAGAGCGCGGGGACGCTGCCGTGCC  
CGCCAGAGATCCCAGACTGCGTGGAGCAGGGCAGCGAGGTCACAGGCCCCACCTTTGCTGATGGCGAGCTCATCC  
CCAGGGAACCCGGCTTTTTTCCCGAGGACGAGGAGGAGGCTATGACGCTGGCGCCACCTGAGGGCCCCAGGAGT  
TGTAACACAGACAGCCCCATGGAGAGCACTCAGAGCCTGGAGGGGTCTGTGCGGAGTCTGCGGAGAAGGACGGGG  
GACTTGGGGGCTGTTTCTGCCAGAAGACAAGTCCCTGGTCCACACTCCATCCATGACGACCTCAGACCTTTCTA  
CACACTCCACCACCTCGCTCATCAGCAATGAGGAGCAGTTTGAAGACTATGGGGAGGGTGACGATGTGGACTGTG  
CCCCAGCAGCCCTTGCCCCGATGATGAGACCAGGACCAACGTCTACTCGGACCTGGGGTCTTCGGTGTCTTCCA  
GTGCGGGGCAGACGCTTAGGAAAATGCGGCACGTGTACAACAGCGAATTGCTAGATGTTTACTGCTCTCAATGCT  
GCAAGAAAATCAACCTGCTCAATGACTTGGAAGCCCGACTGAAAAACCTGAAGGCCAACAGCCCCAACCGAAAGA  
TCTCCAGCACGGCCTTTGGACGGCAGCTCATGCACAGCAGCAACTTCAGCAGCAGCAATGGCAGCACCGAAGACC  
TGTTCCGGGACAGCATTGACTCTTGCGACAATGACATCACAGAGAAGGTAAGCTTCCTGGAAAAGAAGGTGACAG  
AGCTGGAGAATGACAGCCTGACCAATGGGGACCTGAAGAGCAAGCTGAAGCAAGAGAACACACAGCTGGTGCACA  
GGGTGCATGAGCTGGAGGAGATGGTGAAGGATCAGGAGACCACGGCCGAGCAGGCTCTGGAGGAGGAGGCGCGGC  
GCCACCGCGAGGCCTACGGCAAGCTGGAGAGGGAGAAGGCTACCGAGGTGGAGCTGCTCAATGCCAGGGTGCAGC  
AGTTGGAGGAAGAAAATACAGAGCTTAGAACAACAGTGACTCGGCTCAAGTCTCAAACAGAGAACTGGATGAGG  
AGCGGCAGCGCATGTCTGACCGTCTGGAGGACACCAGCCTGCGGCTCAAAGATGAGATGGACCTGTACAAGCGCA  
TGATGGACAAGCTGCGACAGAACCGCCTTGAGTTCCAGAAGGAGCGGGAGGCGACGCAGGAGCTCATCGAGGACT  
TGCGGAAGGAGCTGGAGCACCTGCAGATGTACAAGCTGGACTGCGAGCGGCCAGGCAGGGGCCGAGTGCCTCCT  
CTGGCCTAGGCGAGTTCAATGCCAGGGCCCCGAGGTGGAGCTCGAGCACGAGGTCAAGCGGCTCAAGCAGGAGA  
ATTATAAGCTGCGGGATCAGAACGACGACTTGAATGGGCAGATTTGAGCCTCAGCCTCTACGAAGCAAAAAACC  
TCTTTGCTGCCCAGACTAAAGCCAGTCTCTGGCTGCGGAGATAGACACCGCCTCGCGCGATGAGCTAATGGAAG  
CCCTGAAGGAGCAGGAGGAGATCAACTTCCGGCTGAGGCAGTACATGGACAAGATTATCCTCGCCATCCTGGACC  
ACAATCCCTCCATCCTCGAGATCAAACACTAAGGCACGGGGCTGGCTGCAGAGCAGCCTTAGGACCCTGGGACCA  
AGGGCAGACCTGCCCAAGGATGCAGGCCTAAGCCGGGCCTCACACTCACACTGTAAATGTCTCTTGGCCACCA  
TGCGTTACGTGTACCCGTGTATATGTGGGGAGGCTGTGCACACGAGCGAGGGGTGAGTGGCCGTGGCTGTGGGCA  
GCATCCACACGGTTAGCCGTGCATGCACCTTTGTGGCCCCCTTTGCAAGGGGCAGAGGGTACTGGAAGTGGGAGGAG  
GCAAGGTCTGCTATCAGGAGTTACTGTAAAAACAAGAACTGGAAGCTCGTGTTCGGTACTGGGTAAATGATT  
CTACCTCTGGGGATAAGGATTACATTGCTCTAGTACGATGGGCTCTTTCACCCCACTCCTAGTCCCCTTGGGA  
GTGGGAGCAAAATGTGATCTTTCCTAGGAGTTTGAATGCCCCATATTTGTGTCTCGCCAGCTCTTTGGCCACC  
TTCAAGCCCCAGTGTTCAAGCTCAGAGAGGATGAAGGGGCATCTGGAGGGTCCATGAGATGGGGCCCTCACCAA  
ATGCCTTGGCCACCGGCCAGCAGCCCTCTGTGATGTGTGTGCAGAGTGAACAGAGGACTCAGTTTCATAGCAGC  
TAGTGGGGGCATCCTCATCCTGTACCTATAGAGTTCTGTGACTCCCCCATCCATGCTACCTACCTCCCCGTTTC  
TGTTTCAGTTTAAAGACAATGAAGCAGCATTCACTGCGTCATTGTAACATGAAGGGATAAAAAATGAAGGAGAAGG  
AGGGTTTGGGATGGGTGTCTAAGGCAGGAGTTGACATCGGGCAACCAAAGAAATGAGTTTGGGGAGGAACACAA  
CTCCCATCCAGTCAGTTTCCTTCCCATGGCTGCATCTTAAGATGGATGCACGGAGAAACCGTCTGCCTGGCTCC  
CTGTCTTCATTCTCCACGCAGCCTGGTGATGGCAGGCCTGGGTTTGGATTTCAGAATCCTAGCTCCGGGCTCCAC  
TCGTGTGGCAGCAAGACTGCTTCGTTCCAGCGTTTAGAAACACACCTGTATTTGATTCTCAGCCAGGGGAGCACT  
CGCTGCACTGGTGGGAGGCGGTTGGGAAAGTTGCAGGAAAACCTTAGTCTTCCATCCTTCTGACCCATGGTGGAA  
ATTACACCATGGATTTTTAATGGATCTTTGTTCTAGGCAGCTGGGAATAGACATGGTACTTACCTTAGAGTTTT  
CCAATTTATCTCAATTTTATATGGCTTGTGATTCATTTTCTTAATCCAAATATATATAAACGTGTGTGGTCTTAT  
TCTTCCCCCTGCAGTTTCTTGCTTCTTTCAGCACATCTTATAGTATGAGAAGGAAGGTTTGGGCATGTTGGGAAG  
GGCGGTGGAGGGGGAGTTGCAGAAAGAGAGGGCAGTGAGGTGAGGAGAGGGGATCTGGGGACTTGGGTGTGACA  
CCTGCTTGACAGAGGCAGGGCTGTGGCCAGGACCAACCTTCAATTCCATTCCAATCAGCCTTTGCATTGTGTTGA  
TCTCGTGGCTTCTTTTTAATCTTTTGTGGGGATTAGTTTCATGCTGCACATAATGGGGTTGCACTGGTCTGACC  
CAGGACTTTGGAGCCACCCACACTGGGAAGACTAGGCTAGGCAGTCGGTCTTCTAGGAGTTTCTCAGCCCCCTAG  
GACGCGGTCTCCTTGGGCTCCCCAAGGGTTCTGCGAAGAGGCAGTGGAAGAAGGCATGAGGAGAGGGTCTCTT  
GAGAATTTGCCAATAGGAAGGAGTGGCCACGGCTGAAAGGAACAAGACAGATCCTGACATAGCTTTGGCCTGGGT

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**FIGURE 4773B**

GTTAGGTCAGAAGGAGTACTGGTGCGTGGGGGCCCTTACCCCAGGGTTGAGTATTTTATCTGTAAAATGTTATCTG  
CCCTTTGGCTGCATTGGAATTTAGAGAAGGCTGCAGAGGCCTGGGTTACACAGCCTGAGTCACAACGTGGGAAG  
GAATCTCTGCCACGGGAAAGGTGGGCGGAAGCAGCTGGCAGCCTGGGGCGTGCTTCAGGCTCCTCCCTCTAAGGG  
GCGCCATGGGAACAGGCTCCGGAGGGAGCCGGCGTCTGAAAGGCCCCGGGACCTGCTGCAGTGCCAGAGGGGCC  
TCTGGAGCAGGCCTGGCTTTTAAATGGGGGGCTGAATTCCAGCTCACACACACCTCAAGTCCAACCTTACTTTCT  
TCAGCCAGAATACATTTCTTGTA AACCTGGCTTGTTGCTTGGCTTTTAAAGATGGTGTATGTTTGTA AAAAATAT  
TCTTCTGGGCTCAAAAGCTAGCTTGAGGGGGCAGATGCCCCAGGTGTCCCAGCTCCACAGCCCCCTGGCAGATCCC  
AGACCCCTTGGTGGCAGGTCCCAGAGCCTAGGTGGTAGGAGCTTGATCTTTGTTTCTGCCCTTACCCCTCAGTAG  
TGGGGCTGCGAGGTAGTAGACAGGATGCCCAGTTAAGTTTGAATTTAGATAGAAAATAATTTTAGAATAAATAT  
GTTCTATCTAATACATGGGACAGATGTTATTTTTAGAGATAGGATCTTGCTCTGTTGCCCAGGCTGGAGTGTAGT  
GGTATGATCATAGCTCACCACAACCTTGAACCTCCAGGCTCAAGCGATCCTCCCGCCTTAAGTGCCTGAGTAGCT  
GGGACTACAGGCATGCACCACCACGCCCAGCTAATTTTTCTTATTTTTTGTAGAGACAGGGTCTCACTGTGTTGC  
CTCACTCGAGCTGCTGACCTCAAGTGATCCTCCACCTCAGCCTGCCAAAGCACTGGGATTACAGGCATGAGCCA  
CCATGCCTGGCCAGGACATATTTGAAATGGGGAGATTTTAAAAATTCTGATGATTAGACTGAATCCTCAGACGTT  
CTGGTTTGATTGTTGTGGGTGTAGCCAGGCATGGGATTTTTTAAAGAGCTGCTCAGGTAATTCCAATTTAATTG  
CGTGTCTTACTTGGGTTTTTTGTTTGTATTTTATTGTTTTTGTCTAAACCTGGCAACCCTACCGAGTAGGGATTAGC  
AGTAACCTTATCTGAAATTTAGAGGTGTTTTGGGGGTGGGGCGAGGGTTTCTGTAGTAGACTCAGATTTTACATGG  
CCCTGAGCTGCCCTTGCCTTCAGTTGGAAGCCACGCAAAATGAACTGAACCAGGAGTGAGCTTCGTGTACATTAT  
CTATTAGAAAATGAAGTACCTTCTGGTTCAGCTAGTCCCTGTGCGTTGAGAGGCTTTAAGAACTTCTAGTAAAA  
ATGTTTTTTTCTTTTAGCTTTGAATTGGCCAGAGTTTATCCTAGATTATTTTATTTTAAATTGGTAGAATTCCTT  
GCGAACTGTACAGAGAAATTCCTTTTCATGACTTTATTTCTGACCTATTAAACATGAACAGGCCAGGCATGGT  
GGCTCACGCCTGTAATCCTAGCACTTGGGAGGCAGTGGCAGGCGGATCACTTGAGCTCAGGAGTCCTAAACCAGC  
CTGGGCAACATAGTGATACCTTGCTCTACCAAAAGTT

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**FIGURE 4774**

MKGCEELLKDVLSVESAGTLPCAPEIPDCVEQGSSEVTGPTFADGELIPREPGFFPEDEEEEAMTLAPPEGPQELYT  
DSPMESTQSLEGSVGSPAEEKDGGGLGGLFLPEDKSLVHTPSMTTSDLSTHSTTSLISNEEQFEDYGEEDDVDCAPS  
SPCPDDETRTNVYSDLGSSVSSSAGQTPRKMRHVYNSELDDVYCSQCCKKINLLNDLEARLKNLKANSNPNRKISS  
TAFGRQLMHSSNFSSSNGSTEDLFRDSIDSCDNDITEKVSFLEKKVTELENDSLTNGDLKSKLKQENTQLVHRVH  
ELEEMVKDQETTAEQALEEEEARRHREAYGKLEREKATEVELLNARVQQLEEEENTELRTTVTRLKSQTEKLDEERQ  
RMSDRLEDTSRLKDEMDLYKRMDKLRQNRLEFQKEREATQELIEDLRKELEHLQMYKLDCEPGRGRSASSGL  
GEFNARAREVELEHEVKRLKQENYKLRDQNDLNGQILSLSLYEAKNLFAAQTKAQSLAAEIDTASRDELMEALK  
EQEEINFRRLRQYMDKIIILAILDHNP SILEIKH



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**FIGURE 4775**

GGCTGATTGGCGCTTCTGCGGCGGATCCTCGGGCGGGCAGCCGGGCCGGCGCGTCACGTGGCCACGGCGTCCAG  
GGCGACCAGCCGCGGGCCGCAGGGCATGGACCTTCAGGCCGCCGGGGCCCAGGCGCAGGGGGCCGCGGAGCCGTC  
TCGGGGCCCGCCGCTGCCTAGCGCGCGGGGGGCGCCCCCAGCCCGGAGGCTGGCTTTGCTACAGCTGACCACTC  
CAGTCAGGAGAGAGAGACTGAGAAGGCTATGGATCGACTAGCCCGTGGAACACAGAGCATTCCCTAATGACAGTCC  
TGCCCGGGGTGAGGGCACCATTCTGAAGAGGAAGGCTTTGCCATGGATGAGGAGGACTCTGATGGAGAAGTGA  
TACCTGGGAGCTGTCAGAAGGGACAACTGTCCACCCAAGGAACAGCCTGGCGATCTTTTAAATGAGGACTGGGA  
CTCGGAGTTGAAAGCAGATCAAGGGAATCCATATGATGCTGACGACATCCAGGAGAGCATTCTCAAGAGCTTAA  
ACCTTGGGTGTGCTGTGCCCCACAAGGAGACATGATCTATGACCCAGCTGGCACCATCCGCCTCCACTGATACC  
CTATTATTCCAAGATGGTCTTTGAAACAGGACAGTTTGACGATGCTGAAGATTGAGTGTGGAGCTTTCTGCCTTG  
TAGGTGGGCGGGCCTCCACGTCAAGATCTCTTTTCCTGTCTTGGAGGTGAAAAGTCATATCTGAGAAAATGTTTG  
CAGTGACCCCTAGTCTGGGTACACAGACCAGTGTTCCTTATTGACAGTGTTCATAAGGCCCGTCATTCTCGC  
CAGTCTGTTGTTGTTCTTAATGGGCTCCTCCTTGAAATGTGTGTGTGTTTGTGTCAAGAGGAGTTGTGTTCTTG  
TAAATAAAGGTTAAAAAGAG

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**FIGURE 4776**

MDLQAAGAAQAQGAAEPSRGPPLP SARGAPP SPEAGFATADHSSQERETEKAMDRLARGTQSIPNDSPARGEETHS  
EEEGFAMDEEDSDGELNTWELSEGTCPPKEQPGDLFNEDWDSELKADQGNPYDADDIQESISQELKPWVCCAPQ  
GDMYDPSWHHPPLIPYYSKMVFETGQFDDAED

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**FIGURE 4777**

GAGGCGGAGCGGGGAACGAGGCCGTCGGCCATTTTGTGTCTGCTTCCTGTGGGACGTGGTGGTAGCCGTTGGGTT  
GGGAAAGTGAGGGATTTTGGCCTCGTTTCTCCTGCTTCTTTTCTCCTCCCTTTTACTTTGCCGGTAGAACACAG  
TTATGGGTGCGAAGAAGAAGAAGCAGCTGAAGCCGTGGTGCTGGTATTGTAATAGAGATTTTGATGATGAGAAGA  
TCCTTATTCAGCACCAAAAAGCAAAGCATTTTAAATGCCATATATGTCACAAGAAATTGTATACAGGACCTGGCT  
TAGCTATTCAATTGCATGCAGGTACATAAAGAAACAATAGATGCCGTACCAAATGCAATACCTGGAAGAACAGACA  
TAGAGTTGGAAATATATGGTATGGAAGGTATTCCAGAAAAAGACATGGATGAAAGACGACGACTTCTTGAACAGA  
AAACACAAGAAAGTCAAAAAAAGAAGCAACAAGATGATTCTGATGAATATGATGATGACGACTCTGCAGCCTCAA  
CTTCATTTTCAGCCACAGCCTGTTCAACCTCAGCAAGGTTATATTCCCTCCAATGGCACAGCCAGGACTGCCACCAG  
TACCAGGAGCACCAGGAATGCCCTCAGGCATACCTCCATTAATGCCAGGTGTTCCCTCCTCTGATGCCAGGAATGC  
CACCAGTTATGCCAGGCATGCCACCTGGATTGCATCATCAGAGAAAAATACACCCAGTCATTTTGCGGTGAAAACA  
TAATGATGCCAATGGGTGGAATGATGCCACCTGGACCAGGAATACCACCTCTGATGCCCTGGAATGCCACCAGGTA  
TGCCCCACCTGTTCCACGTCCTGGAATTCCTCCAATGACTCAAGCACAGGCTGTTTCAGCGCCAGGTATTCTTA  
ATAGACCACCTGCACCAACAGCAACTGTACCTGCCCCACAGCCTCCAGTTACTAAGCCTCTTTTCCCCAGTGCTG  
GACAGATGGGGACACCTGTCAAGCTCAAGTACAGCTTCATCCAATTCAGAAAGTCTGTCTGCATCTTCTAAAG  
CTCTGTTTCCTAGCACAGCACAAAGCTCAGGCAGCTGTCCAAGGACCTGTTGGTACAGATTTCAAACCTTAAATA  
GTACCCCTGCAACAATACTACAGAACCCCCAAAGCCTACATTCCCTGCTTATACACAGTCTACAGCTTCAACAATA  
GTACAACAAATAGTACTGCAGCTAAACCAGCGGCTTCAATAACAAGTAAGCCTGCTACACTTACAACAATACTAGTG  
CAACCAGTAAGTTGATCCATCCAGATGAGGATATATCCCTGGAAGAGAGAAGGGCACAGTTACCTAAGTATCAAC  
GTAATCTTCTCGGCCAGGACAGGCCCCCATCGGTAATCCACCAGTTGGACCAATTGGAGGTATGATGCCACCAC  
AGCCAGGCATCCCACAGCAACAAGGAATGAGACCCCCAATGCCACCTCATGGTCAGTATGGTGGTCATCATCAAG  
GCATGCCAGGATACCTTCCTGGTGCTATGCCCCCGTATGGGCAGGGACCGCCAATGGTGCCCCCTTACCAGGGTG  
GGCCTCCTCGACCTCCGATGGGAATGAGACCTCCTGTAATGTGCAAGGTGGCCGTTACTGATCTTACTTCATCC  
AGTCTAATAGGTTTGGAGATTAAACCTTTTCTCAACTTGTGCTGTTTATATAGCCAAGCTTCCGTCATAAAGGCT  
TCATTGTGACTTTAAACAAACATTATCTTCCCACATACCAGGAATAATTGGACATTTATTTTACATGGGAAAAATT  
ATTTGGAATAATAAAGCAGGAACCTTTTCTGAAGTTGCAATTTATACTGTATGGCTTCTTTTTTCATGTTTCATCT  
AGGTTTTTAGAAGTGAAGTATAGTAAATTTGGTTTCGTTAAATTGTGAAGGCGCTGGAATTACATGAACATACCAC  
CCTAGTAAAGGCAAGTTCTGTAAGCTTACATTGCTATTTGTAAAGTTTGCCTTCACAGCATTTTACATGCTGTTG  
GACTTCATGTCCCCAACCTAGCTTGGTGAGGGCTGTAAGTGTTCCTCAAGTACTTGTACATTGGAAGTCTGAATGT  
GTAACAATATTTAATGTATTTAGAGTTCCTCATGTTGCAGGGTTTAAAGAAATCTGACCCACCAAGGTCATGTGAC  
TTTTCTGTACTGTTAAACTTCATTGTAATAAAATGAGAGAAAAATTTATGCCTTTTTTATTCATAACCCAGCTGTG  
GACCACTGCCTGAAAGGTTTGTACAGATGCATGCCACAGTAGATGTCCACATAATAAAATTCATAGTTACCAATG  
CA

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**FIGURE 4778**

ATGGCGGCGGCGGCGGTGGTGGAGTTCCAGAGAGCCCAGTCTCTACTCAGCACCGACCGGGAGGCCTCCATCGAC  
ATCCTCCACTCCATCGTGAAGCGTGACATTTCAGGAAAACGATGAAGAGGCAGTGCAAGTCAAAGAGCAGAGCATC  
CTGGAAC TGGGATCTCTCCTGGCAAAGACTGGACAAGCTGCAGAGCTTGGAGGACTCCTGAAGTATGTACGACCC  
TTCTTGAATTCCATCAGCAAGGCTAAAGCAGCTCGCCTGGTCCGATCTCTTCTTGATCTGTTTCTTGATATGGAA  
GCAGCTACAGGGCAGGAGGTTCGAGCTGTGTTTTAGAGTCCATCGAATGGGCCAAGTCAGAGAAAAAGAACTTTCTTA  
CGCCAAGCTTTGGAGGCAAGACTGGTGTCTTTGTACTTTGATACCAAGAGGTACCAGGAAGCATTGCATTTGGGT  
TCTCAGCTGCTGCGGGAGTTGAAAAAGATGGACGACAAAGCTCTTTTGGTGGAAGTACAGCTTTTAGAAAGCAAA  
ACATACCATGCCCTGAGCAACCTGCCGAAAGCCCCGAGCTGCCTTAACTTCTGCTCGAACCACAGCAAAATGCCATC  
TACTGCCCCCTAAATTGCAGGCCACCTTGGACATGCAGTCGGGTATTATCCATGCAGCAGAAGAGAAGGACTGG  
AAAAGTGCCTACTCATACTTCTATGAGGCATTTGAGGGTTATGACTCCATCGACAGCCCCAAGGCCATCACATCT  
CTGAAGTACATGTTGCTGTGCAAAATCATGCTCAACACCCCAAGATGTCCAGGCTTTGGTGAGCGGGAAGCTT  
GCACCTTCGGTATGCAGGGAGGCAGACAGAAGCATTAAAATGCGTGGCTCAGGCTAGCAAGAACAGATCACTGGCA  
GATTTTGAAGAGGCTCTGACAGATTACCGGGCAGAGCTCCGGGATGACCCAATCATCAGCACACACTTGGCCAAG  
TTGTATGATAACTTACTAGAACAGAATCTGATCCGAGTCATTGAGCCTTTTTCCAGAGTACAGATTGAACACATA  
TCTAGTCTCATCAAACCTCTCAAGGCCGACGTGGAAAGGAAATTATCACAGATGATTCTTGACAAGAAATTCAT  
GGGATTTTGGACCAGGGGGAGGGTGTCTGATTATTTTCGATGAACCCCCAGTAGATAAACTTACGAAGCTGCT  
CTGGAACAATTGAGAACATGAGCAAAGTAGTGGATTCCCTCTACAACAAAGCCAAGAACTGACATAG

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**FIGURE 4779**

MAAAVVEFQRAQSLLSTDREASIDILHSIVKRDIQENDEEAVQVKEQSILELGSLAKTGQAAELGGLLKYVRP  
FLNSISKAKAARLVRSLLDLFLDMEAATGQVELCLESIEWAKSEKRTFLRQALEARLVSLYFDTKRYQEALHLG  
SOLLRELKKMDDKALLVEVQLLESKTYHALSNLPKARAALTSARTTANAIYCPPKLQATLDMQSGIIHAAEEKDW  
KTAYSIFYEAFEGYDSIDSPKAITSLKYMLLCKIMLNTPEDVQALVSGKLALRYAGRQTEALKCVAQASKNRSIA  
DFEKALTDYRAELRDDPIISTHLAKLYDNLLEQNLRVIEPFSRVQIEHISSLIKLSKADVERKLSQMILDKKFH  
GILDQGEGLIIFDEPPVDKTYEAALETIQNMSKVVDSLYNKAKKLT

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**FIGURE 4780**

GGCAGGCCCCGCGCCCGCGCCCGGACTTTGCCATCGGCGGGGCAGTCGCGGGATGCGCCCGGGAGCCACAGCCTGA  
GGCCCTCAGGTCTCTGCAGGTGTCGTGGAGGAACCTAGCACCTGCCATCCTCTTCCCCAATTTGCCACTTCCAGC  
AGCTTTAGCCCATGAGGAGGATGTGACCGGGACTGAGTCAGGAGCCCTCTGGAAGCATGGAGACTGTGGTGATTG  
TTGCCATAGGTGTCCTGGCCACCATCTTTCTGGCTTCGTTTGACGCCCTTGGTGCTGGTTTGACAGGCAGCGCTACT  
GCCGGCCGCGAGACCTGCTGCAGCGCTATGATTCTAAGCCCATTGTGGACCTCATTGGTGCCATGGAGACCCAGT  
CTGAGCCCTCTGAGTTAGAACTGGACGATGTCGTTATCACCAACCCCCACATTGAGGCCATTCTGGAGAATGAAG  
ACTGGATCGAAGATGCCTCGGGTCTCATGTCCCACTGCATTGCCAICTTTGAAGATTTGTCACACTCCGACAGAGA  
AGCTTGTTGCCATGACAATGGGCTCTGGGGCCAAGATGAAGACTTCAGCCAGTGTGACGACATCATTGTGGTG  
CCAAGCGGATCAGCCCCAGGGTGGATGATGTTGTGAAGTCGATGTACCCCTCCGTTGGACCCCCAACTCCTGGACG  
CACGGACGACTGCCCTGCTCCTGTCTGTGAGTCACCTGGTGCTGGTGACAAGGAATGCCTGCCATCTGACGGGAG  
GCCTGGACTGGATTGACCAGTCTCTGTGCGCTGCTGAGGAGCGTTTGGAAGTCCTTCGAGAAGCAGCCCTAGCTT  
CTGAGCCAGATAAAGGCCTCCAGGCCCTGAAGGCTTCCTGCAGGAGCAGTCTGCAATTTTAGTGCCTACAGGCCA  
GCAGCTAGCCATGAAGGCCCTGCCGCCATCCCTGGATGGCTCAGCTTAGCCTTCTACTTTTTCTATAGAGTTA  
GTTGTTCTCCACGGCTGGAGAGTTTCACTGTGTGTGCATAGTAAAGCAGGAGATCCCCGTCAGTTTTATGCCTCTT  
TTGCAGTTGCAAACTGTGGCTGGTGAGTGGCAGTCTAATACTACAGTTAGGGGAGATGCCATTCACTCTCTGCAA  
GAGGAGTATTGAAAACGGTGGACTGTCAGCTTTATTTAGCTCACCTAGTGTTTTCAAGAAAATTGAGCCACCGT  
CTAAGAAATCAAGAGGTTTCACATTAAATAGAAATTTCTGGCCTCTCTCGATCGGTCAGAATGTGTGGCAATTC  
TGATCTGCATTTTCAGAAGAGGACAATCAATTGAACTAAGTAGGGGTTTCTTCTTTTGGCAAGACTTGTACTCT  
CTCACCTGGCCTGTTTCATTTATTTGTATTATCTGCCTGGTCCCTGAGGCGTCTGGGTCTCTCCTCTCCCTTGCA  
GGTTTGGGTTTGAAGCTGAGGAACTACAAAGTTGATGATTTCTTTTTTATCTTTATGCCTGCAATTTTACCTAGC  
TACCACTAGGTGGATAGTAAATTTATACTTATGTTTCCCTAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4781**

METVVIVAIGVLATIFLASFAALVLVCRQRYCRPRDLLQRYDSKPIVDLIGAMETQSEPSELELDDVVITNPHIE  
AILENEDWIEDASGLMSHCIAILKICHTPTEKLVAMTMGSGAKMKTSASVSDIIVVAKRISPRVDDVVKSMYPPL  
DPKLLDARTTALLLSVSHLVLVTRNACHLTGGLDWIDQSLSAAEERLEVLREAALASEPDKGLPGPEGFLQEQSA  
I

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**FIGURE 4782**

ATGCTGAAGCTCACACCCTTGCCCTCCAAGATGAAGGTTTCTGCAGCGCTTCTGTGCCTGCTGCTCATGGCAGCC  
ACTTTCAGCCCTCAGGGACTTGCTCAGCCAGATTTCAGTTTCCATTCCAATCACCTGCTGCTTTAACGTGATCAAT  
AGGAAAATTCCTATCCAGAGGCTGGAGAGCTACACAAGAATCACCAACATCCAATGTCCAAGGAAGCTGTGATC  
TTCAAGACCCAACGGGGCAAGGAGGTCTGTGCTGACCCCAAGGAGAGATGGGTCAGGGATTCCATGAAGCATCTG  
GACCAAATATTTCAAAATCTGAAGCCATTGA



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**FIGURE 4783**

MLKLTPLPSKMKVSAALLCLLLMAATFSPQGLAQPDVSIPITCCFNVINRKIPQRLSYTRITNIQCPKEAVI  
FKTQRGKEVCADPKERWVRDSMKHLDQIFQNLKP

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**FIGURE 4784**

CTGGAACCCGGAAGCGGCAGCGCGGCGGACCCGGCGGGCGGGCTCTGGGCGCGGGAATCCCGGCGGATCCCGGG  
CGGGCGGATGACCCCCAGCCCTACCCTTGGTGCCGCCTCCTCCTCTCTCCTTTCTCCTCCGGCAGCCAGCGCGCC  
TGTGTCTCTCTAGGAAGGGGTAGGGGAGGGGCGTCTGGAGAGGACCCCCCGGAATGCCACGTGACGTGCAGT  
CCCCCTGGGGCTGTTCGGCCTGCGGGGAACATGGGCGTGCTCAGGGTCGGACTGTGCCCTGGCCTTACCGAGGA  
GATGATCCAGCTTCTCAGGAGCCACAGGATCAAGACAGTGGTGGACCTGGTTTCTGCAGACCTGGAAGAGGTAGC  
TCAGAAATGTGGCTTGTCTTACAAGGCCCTGGTTGCCCTGAGGCGGGTGCTGCTGGCTCAGTTCTCGGCTTTCCC  
CGTGAATGGCGCTGATCTCCACGAGGAAGTGAAGACCTCTACTGCCATCCTGTCCACTGGCATTGGCAGTCTTGA  
TAAACTGCTTGATGCTGGTCTCTATACTGGAGAAGTGAAGTGTAGGAGGCCAGGTAGCGGCAAACTCA  
GGTATGTCTCTGTATGGCAGCAAAATGTGGCCCATGGCCTGCAGCAAAACGTCCTATATGTAGATTCCAATGGAGG  
GCTGACAGCTTCCCGCCTCCTCCAGCTGCTTCAGGCTAAAACCCAGGATGAGGAGGAACAGGCAGAAGCTCTCCG  
GAGGATCCAGGTGGTGCATGCATTTGACATCTTCCAGATGCTGGATGTGCTGCAGGAGCTCCGAGGCAGTGTGGC  
CCAGCAGGTGACTGGTTCTTCAGGAAGTGTGAAGGTGGTGGTTGTGGACTCGGTCACTGCGGTGGTTTCCCACT  
TCTGGGAGGTGAGCAGAGGGAAGGCTTGGCCTTGATGATGCAGCTGGCCCGAGAGCTGAAGACCCTGGCCCGGGA  
CCTTGGCATGGCAGTGGTGGTGACCAACCACATAACTCGAGACAGGGACAGCGGGAGGCTCAAACCTGCCCTCGG  
ACGCTCCTGGAGCTTTGTGCCAGCACTCGGATTCTCCTGGACACCATCGAGGGAGCAGGAGCATCAGGCGGCCG  
GCGCATGGCGTGTCTGGCCAAATCTTCCCGACAGCCAACAGGTTTCCAGGAGATGGTAGACATTGGGACCTGGGG  
GACCTCAGAGCAGAGTGCCACATTACAGGGTGATCAGACATGACCTGTGCTGTTGTTGGGAAACAGGGAAGCAT  
TGGGGACCCCTCCCAACTTTTCTTCCCAGTAACGCCTGCTGTTTACTGCCACCTGGCACTGGTGAAGTACAGACGT  
TCTCAGGCTGGCCAGAAGAGACATCTTGGGTTTCTTGGCCTCACTCTCTGTAAGCATATAAACCACAGGCGAAAG  
AGGATGCTGCATTGCGAGGACCCAGAAATTCATACTGGTGCCACGTTTCTTCCCTTATTTCTAACGTGTATGTT  
TCTGGTGGAAACCAAGTTACCCCTGGCTGGGAGCATCTCTGATGAGGCATGCTGGCGACTGGATGGATAATCCTG  
TGCATCACCATTGTGTCTGTGCTCCCTCCTAGCGCAGTGGCCAAGCCGGGAAAGCCTCTAACTTGCCCTTGCTG  
CTGCTGCCTTTTTTTTCTTTTGTCTCTGCCTTTCCATTGTGTTAGATGGGGGCCACTCTTCCCTTAGCTCTGTCTC  
TGAGTTACTGGGTGGAAATAAGCTTATAAATGAAATACTCTTCTTCATCTCTGTTTTGCTCTTAAAAATATAAAA  
AGGCAATTCCTCCGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4785**

MGVLRVGLCPGLTEEMIQLLRSHRIKTVVDLVSADLEEVAQKCGLSYKALVALRRVLLAQFSAFPVNGADLHEEL  
KTSTAILSTGIGSLDKLLDAGLYTGEVTEIVGGPGSGKTQVCLCMAANVAHGLQQNVLYVDSNGGLTASRLQLL  
QAKTQDEEEQAEALRRIQVVHAFDIFQMLDVLQELRGTVAAQVTGSSGTVKVVVDSVTAVVSPLLGGQOREGLA  
LMMQLARELKTLLARDLGMAVVVTNHITRDRDSGRLKPALGRSWSFVPSTRILLDTIEGAGASGGRRMACLAKSSR  
QPTGFQEMVDIGTWGTSEQSATLQGDQT

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**FIGURE 4786**

CTGGAACCCGGAAGCGGCAGCGCGCGACCCGGCGGGCGGGCTCTGGGCGCGGGAATCCCGGCGGATCCCGGG  
CGGGCGGATGACCCCCAGCCCTACCCCTTGGTGCCGCCTCCTCCTCTCTCCTTTCTCCTCCGGCAGCCAGCGCGCC  
TGTGTCTCTCTAGGAAGGGGTAGGGGAGGGGCGTCTGGAGAGGACCCCCGCGAATGCCACGTGACGTGCAGT  
CCCCCTGGGGCTGTTCCGGCCTGCGGGGAACATGGGCGTGCTCAGGGTCGGACTGTGCCCTGGCCTTACCGAGGA  
GATGATCCAGCTTCTCAGGAGCCACAGGATCAAGACAGTGGTGGACCTGGTTTCTGCAGACCTGGAAGAGGTAGC  
TCAGAAATGTGGCTTGTCTTACAAGTCTTGATAAACTGCTTGATGCTGGTCTCTATACTGGAGAAGTGAAGTGA  
TTGTAGGAGGCCCAGGTAGCGGCAAACTCAGGTATGTCTCTGTATGGCAGCAAATGTGGCCCATGGCCTGCAGC  
AAAACGTCTATATGTAGATTCCAATGGAGGGCTGACAGCTTCCCGCCTCCTCCAGCTGCTTCAGGCTAAAACCC  
AGGATGAGGAGGAACAGGCAGAAGCTCTCCGGAGGATCCAGGTGGTGCATGCATTTGACATCTTCCAGATGCTGG  
ATGTGCTGCAGGAGCTCCGAGGCACTGTGGCCAGCAGGTGACTGGTTCTTCAGGAAGTGTGAAGGTGGTGGTTG  
TGGACTCGGTCACTGCGGTGGTTTCCCCACTTCTGGGAGGTGAGCAGAGGGAAGGCTTGGCCTTGATGATGCAGC  
TGGCCCGAGAGCTGAAGACCTGGCCCGGGACCTTGGCATGGCAGTGGTGGTGACCAACCACATAACTCGAGACA  
GGGACAGCGGGAGGCTCAAACCTGCCCTCGGACGCTCCTGGAGCTTTGTGCCAGCACTCGGATTCTCCTGGACA  
CCATCGAGGGAGCAGGAGCATCAGGCGGCCGGCGCATGGCGTGTCTGGCCAAATCTTCCCGACAGCCAACAGGTT  
TCCAGGAGATGGTAGACATTGGGACCTGGGGGACCTCAGAGCAGAGTGCCACATTACAGGGTGATCAGACATGAC  
CTGTGCTGTTGTTTGGGAAACAGGGAAGCATTGGGGACCCCTCCCAACTTTTCTTCCAGTAACGCCTGCTGTTT  
ACTGCCACCTGGCACTGGTGAAGTACTACAGACGTTCTCAGGCTGGCCAGAAGAGACATCTTGGGTTTCTTGGCCTCAC  
TCTCTGTAAGCATATAAACCACAGGCGAAAGAGGATGCTGCATTGCGAGGACCCAGAAATTCATACTGGTGCCAC  
GTTTCTTCCCTTATTTCTAACGTGTATGTTTCTGGTGGAAACCAAGTTTACCCTGGCTGGGAGCATCTCTGATG  
AGGCATGCTGGCGACTGGATGGATAATCCTGTGCATCACCATTGTGTCCTGTGCTCCCTCCTAGCGCAGTGGCCA  
AGCCGGGAAAGCCTCTAACTTGCCCTTGTGCTGCTGCCTTTTTTTTTCTTTTGTCTCTGCCTTTCCATTTGTTAG  
ATGGGGGCCCCACTCTTCTTAGCTCTGTCTCTGAGTTACTGGGTGGAAATAAGCTTATAAATGAAATACTCTTCT  
TCATCTCTGTTTTGCTCTTAAAAATATAAAAAGGCAATTCCCCG

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**FIGURE 4787**

MGVLRVGLCPGLTEEMIQLLRSHRIKTVVDLVSADLEEVAQKCGLSYKS

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**FIGURE 4788**

CTGGAACCCGGAAGCGGCAGCGCGCGCGACCCGGCGGGCGGGCTCTGGGCGCGGGAATCCCGGCGGATCCCGGG  
CGGGCGGATGACCCCCAGCCCTACCCTTGGTGCCGCCTCCTCCTCTCTCCTTTCTCCTCCGGCAGCCAGCGCGCC  
TGTGTCTCTCTAGGAAGGGGTAGGGGAGGGGCGTCTGGAGAGGACCCCCGCGAATGCCACGTGACGTGCAGT  
CCCCCTGGGGCTGTTCCGGCCTGCGGGGAACATGGGCGTGCTCAGGGTCGGACTGTGCCCTGGCCTTACCGAGGA  
GATGATCCAGCTTCTCAGGAGCCACAGGATCAAGACAGTGGTGGACCTGGTTTCTGCAGACCTGGAAGAGGTAGC  
TCAGAAATGTGGCTTGTCTTACAAGTCTTGATAAACTGCTTGATGCTGGTCTCTATACTGGAGAAGTGAAGTAAA  
TTGTAGGAGGCCCAGGTAGCGGCAAACTCAGGCAGAAGCTCTCCGGAGGATCCAGGTGGTGCATGCATTTGACA  
TCTTCCAGATGCTGGATGTGCTGCAGGAGCTCCGAGGCACTGTGGCCCAGCAGGTGACTGGTTCTTCAGGAACTG  
TGAAGGTGGTGGTTGTGGACTCGGTCACTGCGGTGGTTTCCCCACTTCTGGGAGGTCAGCAGAGGGAAGGCTTGG  
CCTTGATGATGCAGCTGGCCCCGAGAGCTGAAGACCCTGGCCCCGGGACCTTGGCATGGCAGTGGTGGTGACCAACC  
ACATAACTCGAGACAGGGACAGCGGGAGGCTCAAACCTGCCCTCGGACGCTCCTGGAGCTTTGTGCCCAGCACTC  
GGATTCTCCTGGACACCATCGAGGGAGCAGGAGCATCAGGCGGCCGGCGCATGGCGTGTCTGGCCAAATCTTCCC  
GACAGCCAACAGGTTTCCAGGAGATGGTAGACATTGGGACCTGGGGGACCTCAGAGCAGAGTGCCACATTACAGG  
GTGATCAGACATGACCTGTGCTGTTGTTTGGGAAACAGGGAAGCATTGGGGACCCCTCCCAACTTTTCTTCCCAG  
TAACGCCTGCTGTTTACTGCCACCTGGCACTGGTGACTACAGACGTTCTCAGGCTGGCCAGAAGAGACATCTTGG  
GTTCCCTTGGCCTCACTCTCTGTAAAGCATATAAACCACAGGCGAAAGAGGATGCTGCATTGCGAGGACCCAGAAAT  
TCATACTGGTGCCACGTTTCCCTTCCCTTATTTCTAACGTGTATGTTTCTGGTGGAACCAAGTTCACCCTGGCTG  
GGAGCATCTCTGATGAGGCATGCTGGCGACTGGATGGATAATCCTGTGCATCACCATTGTGTCTGTGCTCCCTC  
CTAGCGCAGTGGCCAAGCCGGGAAAGCCTCTAACTTGCCTTTGCTGCTGCTGCCTTTTTTTTCTTTTGTCTCTGC  
CTTTCCATTTGTTAGATGGGGGCCCACTCTTCCTTAGCTCTGTCTCTGAGTTACTGGGTGGAAATAAGCTTATAA  
ATGAAATACTCTTCTTCATCTCTGTTTTGCTCTTAAAAATATAAAAAGGCAATTCCCCG

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**FIGURE 4789**

MGVLRVGLCPGLTEEMIQLLRSHRIKTVVDLVSADLEEVAQKCGLSYKS

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**FIGURE 4790**

CTGGAACCCGGAAGCGGCAGCGCGGCGCGACCCGGCGGGCGGGCTCTGGGCGCGGGAATCCCGGCGGATCCCGGG  
CGGGCGGATGACCCCCAGCCCTACCCTTGGTGCCGCCTCCTCCTCTCTCCTTTCTCCTCCGGCAGCCAGCGCGCC  
TGTGTCTCTCTAGGAAGGGGTAGGGGAGGGGCGTCTGGAGAGGACCCCCGCGAATGCCACAGTGACGTGCAGT  
CCCCCTGGGGCTGTTCCGGCCTGCGGGGAACATGGGCGTGCTCAGGGTCGGACTGTGCCCTGGCCTTACCGAGGA  
GATGATCCAGCTTCTCAGGAGCCACAGGATCAAGACAGTGGTGGACCTGGTTTCTGCAGACCTGGAAGAGGTAGC  
TCAGAAATGTGGCTTGTCTTACAAGGCAGAAGCTCTCCGGAGGATCCAGGTGGTGCATGCATTGACATCTTCCA  
GATGCTGGATGTGCTGCAGGAGCTCCGAGGCAGTGTGGCCAGCAGGTGACTGGTTCTCAGGAAGTGTGAAGGT  
GGTGGTTGTGGACTCGGTCACTGCGGTGGTTTTCCCACTTCTGGGAGGTCAGCAGAGGGAAGGCTTGGCCTTGAT  
GATGCAGCTGGCCCGAGAGCTGAAGACCCTGGCCCGGGACCTTGGCATGGCAGTGGTGGTGACCAACCACATAAC  
TCGAGACAGGGACAGCGGGAGGCTCAAACCTGCCCTCGGACGCTCCTGGAGCTTTGTGCCCAGCACTCGGATTCT  
CCTGGACACCATCGAGGGAGCAGGAGCATCAGGCGGCCGGCGCATGGCGTGTCTGGCCAAATCTCCCGACAGCC  
AACAGGTTTCCAGGAGATGGTAGACATTGGGACCTGGGGGACCTCAGAGCAGAGTGCCACATTACAGGGTGATCA  
GACTGACTGTGCTGTTGTTTGGGAAACAGGGAAGCATTGGGGACCCCTCCCAACTTTTCTTCCCAGTAACGCC  
TGCTGTTTACTGCCACCTGGCACTGGTGA CTACAGACGTTCTCAGGCTGGCCAGAAGAGACATCTTGGGTTCTT  
GGCCTCACTCTCTGTAAGCATATAAACCACAGGCGAAAGAGGATGCTGCATTGCGAGGACCCAGAAATTCATACT  
GGTGCCACGTTTCTTCCCTTATTTCTAACGTGTATGTTTCTGGTGGAAACCAAGTTCACCCCTGGCTGGGAGCAT  
CTCTGATGAGGCATGCTGGCGACTGGATGGATAATCCTGTGCATCACCATTGTGTCTGTGCTCCCTCCTAGCGC  
AGTGGCCAAGCCGGGAAAGCCTCTAACTTGCCTTTGCTGCTGCTGCCTTTTTTTTCTTTTGTCTCTGCCTTTCCA  
TTTGTTAGATGGGGGCCCCACTCTTCCTTAGCTCTGTCTCTGAGTTACTGGGTGGAAATAAGCTTATAAAATGAAAT  
ACTCTTCTTCATCTCTGTTTTGCTCTTAAAAATATAAAAAGGCAATTCCCCG



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**FIGURE 4791**

MGVLRVGLCPGLTEEMIQLLRSHRIKTVVDLVSADLEEVAQKCGLSYKAEALRRIQVVHAFDIFQMLDVLQELRG  
TVAQQVTGSSGTVKVVVDSVTAVVSPLLGGQQREGLALMMQLARELKITLARDLGMAVVVTNHITRDRDSGRLKP  
ALGRSWSFVPSTRILLDTIEGAGASGGRRMACLAKSSRQPTGFQEMVDIGTWGTSEQSATLQGDQT

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**FIGURE 4792**

GTGGGGACGCAGGATGCGCGGCAGCAGTGGCGGACGAGGCGGTGGCGCGCGATGTGCAGCGGTTGCTAGTGCAGTT  
CCAGGATGAGGGCGGGCAGCTGCTGGGTTCCTCGACGTGCGCGTGGACATCACCCCGGACAGGCTGCAGCT  
CGTGTGCAACGCGCTACTGGCCAGGAGGATCCCCTGCCACTGGCTTTCTTTGTCCACGATGCTGAGATCGTCTC  
CTCACTGGGGAAAGACGTTGGAGTCCCAGGCAGTGGAGACAGAGAAGGTCTTAGACATCATCTACCAGCCACAGGC  
TATCTTCAGAGTCCGGGCTGTGACTCGCTGCACCAGCTCCTTGGAGGGTCACAGTGAGGCAGTCATTTCTGTGGC  
CTTCAGCCCTACGGGAAAGTACCTGGCCAGTGGCTCTGGAGACACCACCGTGCCTTCTGGGATCTCAGCACAGA  
GACACCACATTTACATGCAAGGGACACAGACACTGGGTCTTAGTATATCCTGGTCTCCAGATGGCAAGAAGCT  
GGCCTCAGGCTGCAAGAATGGCCAGATTCTCCTCTGGGACCCAAGCACAGGGAAGCAGGTGGGCAGGACCCCTCGC  
TGGCCACAGCAAGTGGATCACAGGCCTGAGCTGGGAGCCCCTCCATGCGAACCCTGAGTGCCGCTATGTGGCCAG  
CAGCTCCAAGGATGGCAGTGTGCGGATCTGGGACACAACCTGCAGGCCGCTGTGAGCGCATCTCACCAGGGCACAC  
CCAGTCGGTACCTGTCTCCGGTGGGAGGGGACGGGCTTCTCTACTCTGCCTCCCAGGACCGCACCATCAAAGT  
CTGGAGAGCTCATGACGGTGTGCTGTGCCGACTCTGCAAGGCCACGGCCACTGGGTGAACACCATGGCCCTCAG  
CACTGACTATGCCCTGCGCACTGGGGCCTTTGAACCTGCTGAGGCCTCAGTTAATCCCCAAGACCTCCAAGGATC  
CTTGACAGGAGTTGAAGGAGAGGGGCTCTGAGCCGATACAACCTCGTGCGGGGCCAGGGTCCAGAGAGGCTGGTGT  
TGGCTCCGACGACTTCACCTTATTCTGTGGTCCCCAGCAGAGGACAAAAAGCCTCTCACTCGGATGACAGGACA  
CCAAGCTCTCATCAACCAGGTGCTCTTCTCTCCTGACTCCCGCATCGTGGCTAGTGCCTCCTTTGACAAGTCCAT  
CAAGCTGTGGGATGGCAGGACGGGCAAGTACCTGGCTTCCCTACGCGGCCACGTGGCTGCCGTGTACCAGATTGC  
GTGGTCAGCTGACAGTGGCTCCTGGTCAGCGGCAGCAGTGACAGCACACTGAAGGTGTGGGATGTGAAGGCCCA  
GAAGCTGGCCATGGACCTGCCCCGCCACGCGGATGAGGTATATGCTGTTGACTGGAGTCCAGATGGCCAGAGAGT  
GGCAAGTGGTGGGAAGGACAAATGCCTCCGATATGGAGGAGATGAGACGGCCCGAAGTTCTCTCTGACCCCCAC  
CTCGACTCGGCCTCTGCCAGCTGCCTTCCCTGCCAGAGAAACAAAGGCTGAGATGGCAGTGCACACACCCTCCCCA  
CCAGTGGGGACCTGAGAATGCGTGTGGCCTGCTGTCTCGATAGACCGGAATGGGGTTTTCCACAGATCCCCGC  
CTGTGGCACACCCAGAGCCAGAAATCGAAGGTACAGGAAGTTGTCACTGAACTTGGCCCGTGTCTGCTACTCT  
GTACCTTGCTGGTACAGACAGGGGTGGTGGGCAGCCAGGCTCTATGAGTGGGCCCCCTAGTGTGAGCTCTGTACAG  
GGTCAGATCCCAGGTTCTATGACCAAATAAGTAACTTAAAGTTTGTGTGTTGGGTTCTAATTCCTTGTCTTAGAA  
TCCCCATGACTCAATCAAGGACTGTGCTAAATGAGATTGTCCAGCCCCCGCCCTTGCACTGGACTACGCCAAAAC  
CACACTGACCAGGCACCTTGCTTCCCTCTCTTCCCCCGTGTGGTAAGAGAGAGGGCCAGTTGTGATAGTGGCCAA  
GGAGAATCTAGGGCTGTATTGTTGTCCACTGCAGTAGGCACCGGCCACATGTGACTGCTGGCATGAAATAGAAGT  
GCAGTTCCTCCATCGCACTGGGTAAGGCCTCCAGTATTGGACAGCACACAGAAAGGTTTTATCATCAAGAGAGT  
TCTGCTGGTCAGCCCTGCTCCAGGGGATGCCTCTGCCTTCGCATAGCACACTGCTTGAGGCCCTGCCAGGCACCA  
AGCACTGCCCTGGGCCCCATGGGATAGAGCGGGGAAGGTGATGGCTCTTCCAGAGGATTCCCTCAGATGGGGAGGC  
AGCAGTATGAGCTCTGAGCAGAAGTGGGTATTGTTGATACAGAGGAAGTTCTTTGCCACGAGAACTTTCAAGCAG  
TGAAAGGAATTCCCATCAGGACTCAGACCCAGGCCGAGATCTTGCCCTGAATGTACCCTGCCTCTGCTTTCTCC  
TGCATCCCATGCTAAGCAGGGTCATGGTCTGAACTACTCAGATTGGATTCCAAACCATCCTTGTATAAACTGCT  
CAGAACTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4793**

MAAAVADEAVARDVQRLLVQFQDEGGQLLGSPFDVPVDITPDRLQLVCNALLAQEDPLPLAFFVHDAEIVSSLGK  
TLESQAVETEKVLDIIYQPQAIFRVRAVTRCTSSLEGHSEAVISVAFSPTGKYLASGSGDITVRFWDLSTETPHF  
TCKGHRHWVLSISWSPDGKKLASGCKNGQILLWDPSTGKQVGRTLAGHASKWITGLSWEPLHANPECRYVASSSKD  
GSVRIWDTTAGRCERILTGHTQSVTCLRWGGDGLLYSASQDRTIKVWRAHDGVLCTRLQGHGHVNTMALSTDYA  
LRTGAFEPAEASVNPQDLQGSLQELKERALSRYNLVRGQGERLVSGSDDFTLFLWSPAEDKKPLTRMTGHQALI  
NQVLFSPDSRIVASASFDKSIKLWDGRTGKYLASLRGHVAAVYQIAWSADSRLLVSGSSDSTLKVWDVKAQKLAM  
DLPGHADDEVYAVDWSPDGQRVASGGKDKCLRIWRR

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**FIGURE 4794A**

GTGCAGTGGCACGATCTTGGTTCACCACAATCTCGTCTCGAAGGCTCAGGTGATTCTCTCACCTCAGCCGCCTGA  
GTAGCTGGGACCACAGTTTCAGCTGTGAGTTCAACATGGAGGCAAATCAGTGCCCCCTGGTTGTGGAACCATCTT  
ACCCAGACCTGGTCATCAATGTAGGAGAAGTGACTCTTGGAGAAGAAAACAGAAAAAGCTGCAGAAAATTCAGA  
GAGACCAAGAGAAGGAGAGAGTTATGCGGGCTGCATGTGCTTTATTAACTCAGGAGGAGGAGTGATTGCAATGG  
CCAAGAAGGTTGAGCATCCCCTGGAGATGGGACTGGATTTAGAACAGTCTTTGAGAGAGCTTATTGAGTCTTCAG  
ATCTGCAGGCTTTCTTTGAGACCAAGCAACAAGGAAGGTGTTTTTACATTTTTGTTAAATCTTGGAGCAGTGGCC  
CTTTCCCTGAAGATCGCTCTGTCAAGCCCCGCCTTTGCAGCCTCAGTTCTTCATTATACCGTAGATCTGAGACCT  
CTGTGCGTTCCATGGACTCAAGAGAGGCATTCTGTTTCTGAAGACCAAAGGAAGCCAAAAATCTTGAAGAAG  
GACCTTTTCAAAAATTCACAAGGGTGATACCAAGAGCTCCCTAACTCGGATCCTGCTGACCCAACTCGGATC  
CTGCTGACCTAATTTTCAAAAAGACTATCTTGAATATGGTGAAATCCTGCCTTTTCTGAGTCTCAGTTAGTAG  
AGTTTAAACAGTTCTCTACAAAACACTTCCAAGAATATGTAAGGACAATTCCAGAATACGTCCCTGCATTTG  
CAAACACTGGAGGAGGCTATCTTTTATTGGAGTGGATGATAAGAGTAGGGAAGTCCCTGGGATGTGCAAAAGAAA  
ATGTTGACCTGACTCTTTGAGAAGGAAAATAGAACAGCCATATACAACTACCTTGTGTTCAATTTTGCCAAC  
CCCAACGCCCCGATAACCTTCACACTCAAAATGTGAATGTGTTAAAAAGGGGAGAGCTCTATGGCTATGCTTGCA  
TGATCAGAGTAAATCCCTTCTGCTGTGCAAGTGTCTCAGAAGCTCCCAATTCATGGATAGTGGAGGACAAGTACG  
TCTGCAGCCTGACAACCGAGAAATGGGTAGGCATGATGACAGACACAGATCCAGATCTTCTACAGTTGTCTGAAG  
ATTTTGAATGTGAGTCTATCTAGTGGGCTCCCTTAGCAGACCAGTGTACTCCAAGAAAGGCCTGGAAC  
ATAAAAGGAACTCCAGCAACTTTTATTTTTCAGTCCCACCAGGATATTTGCGATATACTCCAGAGTCACTCTGGA  
GGGACCTGATCTCAGAGCACAGAGGACTAGAGGAGTTAATAAATAAGCAAATGCAACCTTTCTTTGGGGAATTT  
TGATCTTCTCTAGAAGTTGGGCTGTGGACCTGAACTTGCAAGGAGAAGCCAGGAGTCACTGTGATGCTCTGCTGA  
TAGCACAGAACAGCACCCCCATTCTCTACACCATTCTCAGGGAGCAAGATGCAGAGGGCCAGGACTACTGCACTC  
GCACCGCCTTTACTTTGAAGCAGAAGCTAGTGAACATGGGGGGCTACACCGGGAAGGTGTGTGTGAGGGCCAAGG  
TCCTCTGCCTGAGTCTGAGAGCAGCGCAGAGGCCCTTGAGGCTGCAGTGTCTCCGATGGATTACCCTGCGTCTCT  
ATAGCCTTGCAAGCACCCAGCACATGGAAGCCCTGCTGCAGTCCCTCGTGATTGTCTTACTCGGCTTCAGGTCTC  
TCTTGAGTGACCAGCTCGGCTGTGAGGTTTTAAATCTGCTCACAGCCCAGCAGTATGAGATATTCTCCAGAAGCC  
TCCGCAAGAACAGAGAGTTGTTTGTCCACGGCTTACCTGGCTCAGGGAAGACCATCATGGCCATGAAGATCATGG  
AGAAGATCAGGAATGTGTTTCACTGTGAGGCACACAGAATTCTCTACGTTTGTGAAAACCAGCCTCTGAGGAACT  
TTATCAGTGATAGAAATATCTGCCGAGCAGAGACCCGAAAACCTTCCCTAAGAGAAAACCTTTGAACACATTCAAC  
ACATCGTCATTGACGAAGCTCAGAATTTCCGTAAGATGGGGACTGGTATGGGAAGGCAAAAAGCATCACTC  
GGAGAGCAAAGGGTGGCCAGGAATCTCTGGATCTTTCTGGATTACTTTTCAAGACCCAGCTTGGATTGCAGTG  
GCCTCCCTCCTCTCTCAGACCAATATCCAAGAGAAGAGCTCACCAGAATAGTTGCAATGCAGATCCAATAGCCA  
AGTACTTACAAAAGAAATGCAAGTAATTAGAAGTAATCCTTCATTTAACATCCCCACTGGGTGCCTCGAGGTAT  
TTCTTGAAGCCGAATGGTCCCAGGGTGTTCAGGGAACCTTACGAATTAAGAAATACTTGACTGTGGAGCAAATAA  
TGACCTGTGTGGCAGACACGTGCAGGCGCTTCTTTGATAGGGGCTATTCTCCAAAGGATGTTGCTGTGCTTGTCA  
GCACCGCAAAGAAGTGGAGCACTATAAGTATGAGCTCTTGAAAGCAATGAGGAAGAAAAGGGTGGTGCAGCTCA  
GTGATGCATGTGATATGTTGGGTGATCACATTGTGTTGGACAGTGTTCCGGCGATTCTCAGGCCTGGAAAGGAGCA  
TAGTGTGTTGGGATCCATCCAAGGACAGCTGACCCAGCTATCTTACCCAATGTTCTGATCTGTCTGGCTTCCAGGG  
CAAAACAACACCTGTATATTTTTCCGTGGGGTGGCCATTAGGAAGAACTCCAAATCAAAATGCTATGTAAATGTC  
TATGGGTGACAGTCTGCTGATGGTAGAAACCTTTCTTTTATGTTTCAAGTCAAGATTTGGACGGAGCTGACAC  
AAAGAGTTTGGAGCTCCCCATTTCTGGCTCTCCTTTTCAAGGGTTCCTTCCCCAACCTTTTCAAGCAGCGGTGGCT  
GCCCCCATTTCTGACCCCTGACTCTTCCAGCCAGAAAGATGGTGGTTTTCTAAAGGAACCTTTAGCTGTCTGTCAC  
AATGCCGATCTGTGCTTGCATTTTGGGTAAAGCCATAAAAAATAAGAACTCAGCCTGTGGCCTTTCTTTCTTC  
CAAGGCTGGGCTTCTTTTTTAAAGTGAATTCATGCAGTTTGTGCTTTTAAAAATTTGTCCAGAATCGTTTTCTG  
CAGAAGCATGGTCTGTTAGGAGCTTACTGGCCGTAGCAGAAGCAATTGTTTCTGAATTCTTGACATTTATCTTT  
GCTGTATTCAATTTAGGGCTTGGGAGAGTCCGAAGATAATTCAGTCACTGTGAGATTAATAATTTGTGAGGACAA  
AGAATACCGTTATGATTATTTAATCCTTTAAATTTGTGGTCTCCAGAGCTTGTCTCAGAATGGCCAGACCAAG  
CCTTAATTGTGATAGTGAATATTAATGGTCACTTTAAGGAGAAATTATAGGCCAAGATGAAATGAACATAAACCT  
GTTTGCCCTGGCTTTTTCAGTGGGAAGATGATATTAGAGACCAAAATCTGGTTCTGAAGGTGTGTATCAGCCCTAAGG

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**FIGURE 4794B**

TGAACCAGACTTGGGAAAGATTGTCTTTAAAAATCAATGAGTTTATGTTTTAACTTCTCAGCTTAGTTCTATGCA  
TTGCTCTATAACACACCTAGTTAAGTTTTATGTTATTCTTGAACGTGATTTTTTTTCTATTTACTTTTCATGGTT  
TGGTGGGCCATTGTTATGGACTGAATGTTTGTGTCCACCCCTTCACCCCCAAATTCCTGTTGAAGCCCCAACC  
TGCACTGTGGAGCTGGGGCTGCTAAGGAAGTAATTAAGGTTACATGAAGTCATGGTGGGGCTCTGATCTGCTAAG  
GTTGGTGTCCCTTATAGGGAGAGACCCAGAGAGCTTGTTCCCTCCCTCCCTGTGCATGCAAACAAGAGGGCATGG  
GAGCACACAGAGAGATGGCAGCCACCTACAAGCCAAGAGGAGAAGCCTCACAATCAAACCTCTCGCTGCTGGCGAG  
AGTCTTGGACTCTGTCTTGGACTTCCAGCCTCCAGACTGTGAGAAACAAATTTCTGTTGTTTCAGCTTCTCAGTC  
TCTGGTGTGTTTTGTTATTGCAGCCTGAGAACACAGCTGTACGATTATTTGTCAAACAGAAAACACTGATACTTAAC  
AATGCTAATGCAATTATTTATTTGCTTTTCAGTCTCTACAAAACGTTCTAAAACACTAATCTAAATATTAACAGT  
AAAATATTTGCATAACTAATGGAACTAAGAAATCATATGACCAATATTTCACTTATTGGTAATCTTACTCTACT  
GATTTCCCCCAGACTGTGATTTTTTGAACCTCCTTGCCCTTCTCCTGTCTTTCTGTGTTTATTCATGGAATTCCA  
GTTATCTGGGCTTGAAATTGCAGGCTCTCCTAACTTAAGCAAAATCTGACAGATCAGCAAAATGAGATAAATGTT  
TCTTTTTTCTTTCTGACTGCATTAAATCAGATACAACTCAGCATTAAAAAGCTATCTTTGTAAATGTTGTTACTA  
ATAAATTAGTCTTATAAGATCCCTGGACTTTGGAGTTGTTGCAATGTCTTTGAGAGTAATCTTTAAAAGTCTAA  
TTTCGACTGGTTGTATCTCTTTATGATTTATTGCCCCACTAACAATATTTGAAACAATATAATATTTTAAAATGT  
ATAAATAATTATGAATTTTTGTTTAGAACAAAGAGGATTACTGATATTTGTTTCCCTATGAATGGCAAAGGTTT  
AGCTTACTACTGCATTTCTGTTTTAAATAAAAAGTTGAGAGTTTGTGTCTCATTAAACTG

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**FIGURE 4795**

MEANQCPLVVEPSYPDLVINVGCVTLGGEENRKKLQKIQRDQEKERVMAACALLNSGGGVIRMAKKVEHPVEMGL  
DLEQSLRELIQSSDLQAFFETKQOGRCFYIFVKSWSSGPFPEDRSVKPRCLSSSLYRRSETSVRSMDSREAF  
FLKTKRKP KILEEGPFHKIHKGVYQELPNSDPADPNSDPADLIFQKDYLEYGEILPFPESQLVEFKQFSTKHFQE  
YVKRTIPEYVPAFANTGGGYLFIGVDDKSREVLGCACENVDPSLRKIEQAIYKLPVHFCQPQRPITFTLKIV  
NVLKRGELYGYACMIRVNPFCFAVFSEAPNSWIVEDKYVCSLTTEKWWGMMTDTPDLLQLSEDFECQLSLSSGP  
PLSRPVYSKKGLEHKKELQQLLFSVPPGYLRYTPESLWRDLISEHRGLEELINKMQPFFRGILIFSRSWAVDLN  
LQEKPGVICDALLIAQNSTPILYTILREQDAEGQDYCTRTAFTLKQKLVNMGYTGKVCVRAKVLCLSPESAE  
LEAAVSPMDYPASYSLAGTQHMEALLQSLVIVLLGFRSLSDQLGCEVLNLLTAQQYEIFSRSLRKNRELFVHGL  
PGSGKTIMAMKIMEKIRNVFHCEAHRILYVCENQPLRNFI SDRNICRAETRKTFLRENFEHIQHIVIDEAQNFRT  
EDGDWYGKAKSITRAKGGPGILWIFLDYFQTSHLDCSGLPPLSDQYPREELTRIVRNADPIAKYLQKEMQVIRS  
NPSFNIPGTGCLVFPFAEWSQGVQGTLRICKYLTVEQIMTCVADTCRRFFDRGYSPKDVAVLVSTAKEVEHYKYE  
LLKAMRKKRVVQLSDACDMLGDHIVLDSVRRFSGLERSIVFGIHPRTADPAILPNVLICLASRAKQHLYIFPWGG  
H

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**FIGURE 4796A**

AATTCTCGAGCTCGTTCGACCGGTTCGACGAGCTCGAGGGTTCGACGAGCTCGAGGGCGCGCGCCCCGGCCCCACCCC  
TCGCAGCACCCCGCGCCCCGCGCCCTCCCAGCCGGGTTCAGCCGGAGCCATGGGGCCGGAGCCGAGTGAGCACC  
**ATGGAGCTGGCGGCCCTTGTGCCGCTGGGGGCTCCTCCTCGCCCTCTTGCCCCCGGAGCCGCGAGCACCCAAGTG**  
TGCACCGGCACAGACATGAAGCTGCGGCTCCCTGCCAGTCCCAGACCCACCTGGACATGCTCCGCCACCTCTAC  
CAGGGCTGCCAGGTGGTGCAGGGAAACCTGGAACCTACCTACCTGCCCACCAATGCCAGCCTGTCTTCTCCTGCAG  
GATATCCAGGAGGTGCAGGGCTACGTGCTCATCGCTCACAACCAAGTGAGGCAGGTCCCAGTGCAGAGGCTGCGG  
ATTGTGCGAGGCCACCCAGCTCTTTGAGGACAACCTATGCCCTGGCCGTGCTAGACAATGGAGACCCGCTGAACAAT  
ACCACCCCTGTTCAGAGGGGCTCCCCAGGAGGCTGCGGGAGCTGCAGCTTGAAGCCTCACAGAGATCTTGAAA  
GGAGGGGTCTTGATCCAGCGGAACCCCAAGCTCTGCTACCAGGACACGATTTTGTGGAAGGACATCTTCCACAAG  
AACAACCAAGCTGGCTCTCACACTGATAGACACCAACCGCTCTCGGGCTGCCACCCCTGTTCTCCGATGTGTAAG  
GGCTCCCGCTGCTGGGGAGAGAGTTCTGAGGATTGTGAGAGCCTGACGCGCACTGTCTGTGCCGGTGGCTGTGCC  
CGCTGCAAGGGGCCACTGCCCAGTACTGCTGCCATGAGCAGTGTGCTGCCGGCTGCACGGGGCCCCAAGCACTCT  
GACTGCCTGGCCTGCCTCCACTTCAACCACAGTGGCATCTGTGAGCTGCACTGCCCAGCCCTGGTACCTACAAC  
ACAGACACGTTTGAGTCCATGCCCAATCCCAGGGGCCGGTATACATTGGCGGCCAGCTGTGTGACTGCCTGTCCC  
TACAACCTACCTTTCTACGGACGTGGGATCCTGCACCCTCGTCTGCCCCCTGCACAACCAAGAGGTGACAGCAGAG  
GATGGAACACAGCGGTGTGAGAAGTGCAGCAAGCCCTGTGCCCGAGTGTGCTATGGTCTGGGCATGGAGCACTTG  
CGAGAGGTGAGGGCAGTTACCAAGTGCCAATATCCAGGAGTTTGTGCTGCAAGAAGATCTTTGGGAGCCTGGCA  
TTTCTGCCGGAGAGCTTTGATGGGGACCCAGCCTCCAACACTGCCCCGCTCCAGCCAGAGCAGCTCCAAGTGTTC  
GAGACTCTGGAAGAGATCACAGGTTACCTATACATCTCAGCATGGCCGGACAGCCTGCCTGACCTCAGCGTCTTC  
CAGAACCTGCAAGTAATCCGGGGACGAATTCTGCACAATGGCGCCTACTCGCTGACCCTGCAAGGGCTGGGCATC  
AGCTGGCTGGGGCTGCGCTCACTGAGGGAACCTGGGCAGTGGACTGGCCCTCATCCACCATAACACCCACCTCTGC  
TTCGTGCACACGGTGCCCTGGGACCAGCTCTTTCGGAACCCGCACCAAGCTCTGCTCCACACTGCCAACCGGCCA  
GAGGACGAGTGTGTGGGCGAGGGCCTGGCCTGCCACCAGCTGTGCGCCCGAGGGCACTGTGGGGTCCAGGGCCC  
ACCCAGTGTGTCAACTGCAGCCAGTTCCTTCGGGGCCAGGAGTGCCTGGAGGAATGCCGAGTACTGCAGGGGCTC  
CCCAGGGAGTATGTGAATGCCAGGCAGTGTTCGCGTGCCACCCTGAGTGTGAGCCCCAGAATGGCTCAGTGACC  
TGTTTTGGACCGGAGGCTGACCAGTGTGTGGCCTGTGCCACTATAAGGACCCCTCCCTTCTGCGTGGCCCGCTGC  
CCCAGCGGTGTGAAACCTGACCTCTCCTACATGCCATCTGGAAGTTTCCAGATGAGGAGGGCGCATGCCAGCCT  
TGCCCCATCAACTGCACCCACTCCTGTGTGGACCTGGATGACAAGGGCTGCCCGCGGAGCAGAGAGCCAGCCCT  
CTGACGTCCATCGTCTCTGCGGTGGTTGGCATTCTGCTGGTCTGGTCTTTGGGGTGGTCTTTGGGATCCTCATC  
AAGCGACGGCAGCAGAAGATCCGGAAGTACAGATGCGGAGACTGCTGCAGGAAACGGAGCTGGTGGAGCCGCTG  
ACACCTAGCGGAGCGATGCCCAACCAGGCGCAGATGCGGATCCTGAAAGAGACGGAGCTGAGGAAGGTGAAGGTG  
CTTGGATCTGGCGCTTTTGGCACAGTCTACAAGGGCATCTGGATCCCTGATGGGGAGAATGTGAAAATTCCAGTG  
GCCATCAAAGTGTGAGGGAAAACACATCCCCCAAAGCCAAACAAAGAAATCTTAGACGAAGCATACGTGATGGCT  
GGTGTGGGCTCCCCATATGTCTCCCGCCTTCTGGGCATCTGCCTGACATCCACGGTGCAGCTGGTGACACAGCTT  
ATGCCCTATGGCTGCCTCTTAGACCATGTCCGGGAAAACCGCGGACGCCTGGGCTCCCAGGACCTGCTGAACTGG  
TGATATGCAGATTGCCAAGGGGATGAGCTACCTGGAGGATGTGCGGCTCGTACACAGGGACTTGGCCGCTCGGAAC  
GTGCTGGTCAAGAGTCCCAACCATGTCAAAATTACAGACTTCGGGCTGGCTCGGCTGCTGGACATTGACGAGACA  
GAGTACCATGCAGATGGGGGCAAGGTGCCCATCAAGTGGATGGCGCTGGAGTCCATTCTCCGCCGGCGGTTACC  
CACCAGAGTGATGTGTGGAGTTATGGTGTGACTGTGTGGGAGCTGATGACTTTTGGGGCCAAACCTTACGATGGG  
ATCCCAGCCCGGAGATCCCTGACCTGCTGGAAAAGGGGGAGCGGCTGCCCCAGCCCCCATCTGCACCATTGAT  
GTCTACATGATCATGGTCAAATGTTGGATGATTGACTCTGAATGTGCGCCAAGATTCCGGGAGTTGGTGTCTGAA  
TTCTCCCGCATGGCCAGGGACCCCCAGCGCTTTGTGGTCTATCCAGAATGAGGACTTGGGCCAGCCAGTCCCTTG  
GACAGCACCTTCTACCGCTCACTGCTGGAGGACGATGACATGGGGGACCTGGTGGATGCTGAGGAGTATCTGGTA  
CCCCAGCAGGGCTTCTTCTGTCCAGACCTGCCCGGGCGCTGGGGGCATGGTCCACCACAGGCACCGCAGCTCA  
TCTACCAGGAGTGGCGGTGGGGACCTGACACTAGGGCTGGAGCCCTCTGAAGAGGAGGCCCCCAGGTCTCCACTG  
GCACCCCTCCGAAGGGGCTGGCTCCGATGTATTTGATGGTGACCTGGGAATGGGGGCAGCCAAGGGGCTGCAAGC  
CTCCCCACACATGACCCAGCCCTCTACAGCGGTACAGTGAGGACCCACAGTACCCCTGCCCTCTGAGACTGAT  
GGCTACGTTGCCCCCTGACCTGCAGCCCCCAGCCTGAATATGTGAACCAGCCAGATGTTGCGCCCCAGCCCCCT

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**FIGURE 4796B**

TCGCCCCGAGAGGGCCCTCTGCCTGCTGCCCCGACCTGCTGGTGCCACTCTGGAAAGGGCCAAGACTCTCTCCCCA  
GGGAAGAATGGGGTCGTCAAAGACGTTTTTGCCTTTGGGGGTGCCGTGGAGAACCCCGAGTACTTGACACCCACAG  
GGAGGAGCTGCCCCCTCAGCCCCACCCTCCTCCTGCCTTCAGCCCAGCCTTCGACAACCTCTATTACTGGGACCAG  
GACCCACCAGAGCGGGGGGCTCCACCCAGCACCTTCAAAGGGACACCTACGGCAGAGAACCCAGAGTACCTGGGT  
CTGGACGTGCCAGTGTGAACCAGAGGCAAGTCCGCAGAAGCCCTGATGTGTCCTCAGGGAGCAGGGAAGGCCT  
GACTTCTGCTGGCATCAAGAGGTGGGAGGGCCCTCCGACCACTTCCAGGGGAACCTGCCATGCCAGGAACCTGTC  
CTAAGGAACCTTCCTTCCTGCTTGAGTTCCAGATGGCTGGAAGGGGTCCAGCCTCGTTGGAAGAGGAACAGCAC  
TGGGGAGTCTTTGTGGATTCTGAGGCCCTGCCAATGAGACTCTAGGGTCCAGTGGATGCCACAGCCCAGCTTGG  
CCCTTTCCTTCCAGATCCTGGGTACTGAAAGCCTTAGGGAAGCTGGCCTGAGAGGGGAAGCGGCCCTAAGGGAGT  
GTCTAAGAACAAAAGCGACCCATTGAGAGACTGTCCCTGAAACCTAGTACTGCCCCCATGAGGAAGGAACAGCA  
ATGGTGTGAGTATCCAGGCTTTGTACAGAGTGCTTTTCTGTTTAGTTTTTACTTTTTTTGTTTTGTTTTTTTAAA  
GACGAAATAAAGACCCAGGGGAGAATGGGTGTTGTATGGGAGGCAAGTGTGGGGGGTCTTCTCCACACCCACT  
TTGTCCATTTGCAAAATATATTTTGGAAAAC



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**FIGURE 4797**

MELAALCRWGLLLALLPPGAASTQVCTGTDMKLRLPASPETHLDMLRHLYQGCQVVQGNLELTYPNLSLSFLO  
DIQEVQGYVLIAHNQVRQVPLQRLRIVRGTQLFEDNYALAVLDNGDPLNNTTPVTGASPGGLRELQLRSLTEILK  
GGVLIQRNPQLCYQDTILWKDIFHKNNQLALTIDTNRSRACHPCSPMCKGSRGWGESSEDCQSLTRTVCAAGCA  
RCKGPLPTDCCHEQCAAGCTGPKHSDCLACLHFNHSGICELHCPALVTYNTDTFESMPNPEGRTYFGASCVTACP  
YNYLSTDVGSCTLVCPHNLQEVTAEDGTQRCCKSKPCARVCYGLGMEHLREVRAVITSANIQEFAGCKKIFGSLA  
FLPESFDGDPASNTAPLQPEQLQVFETLEEITGYLYISAWPDSLPLDSVFNQVIRGRILHNGAYSLTLQGLGI  
SWLGLRSLRELGSGLALIHNNHLCFVHTVPWDQLFRNPHQALLHTANRPEDECVGEGLACHQLCARGHCWGPGP  
TQCVNCSQFLRGQECVEECRVLQGLPREYVNARHCLPCHPECQPQNGSVTCFGPEADQCVACAHYKDPFFCVARC  
PSGVKPDLSYMPIWKFPDEEGACQPCPINCTHSCVDLDDKGCPAEQRASPLTSIVSAVVGILLVVVLGVVFGILI  
KRRQQKIRKYTMRRLLQETELVEPLTPSGAMPNQAQMRILKETELRKVKVLGSGAFGTVYKGIWIPDGENVKIPV  
AIKVLRENTSPKANKEILDEAYVMAGVGSPYVSRLLGICLTSTVQLVTQLMPYGCLLDHVRENRRGLGSQDLLNW  
CMQIAKGMSYLEDVRLVHRDLAARNVLVKSPNHVKITDFGLARLLDIDETEHADGGKVPIKWMALLESILRRRFT  
HQSDVWSYGVTVWELMTFGAKPYDGIPAREIPDLLEKGERLPQPPICTIDVYMIMVKCWMIDSECRPRFRELVE  
FSRMARDPQRFVVIQNEIDLGPASPLDSTFYRSLLEDDDMGDLVDAEEYLVPQQGFFCPDPAPGAGGMVHHRHRS  
STRSGGDLTLGLEPSEEEAPRSPLAPSEGAGSDVFDGDLGMGAAGLQSLPTHDPSPLOQRYSEDPTVPLPSETD  
GYVAPLTCSPQPEYVNQPDVRPQPPSPREGPLPAARPAGATLERAKTILSPGKNGVVKDVFAFGGAVENPEYLTPO  
GGAAPQPHPPAFSPAFDNLYYWDQDPPERGAPPSTFKGTPTAENPEYLGLDVPV

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**FIGURE 4798**

CTTTCCTTTTCGCTGCTGCGGCCGCAGCCATGAGTATGCTCAGGCTTCAGAAGAGGCTCGCCTCTAGTGTCTCCG  
CTGTGGCAAGAAGAAGGTCTGGTTAGACCCCAATGAGACCAATGAAATCGCCAATGCCAACTCCCGTCAGCAGAT  
CCGGAAGCTCATCAAAGATGGGCTGATCATCCGCAAGCCTGTGACGGTCCATTCCCGGGCTCGATGCCGGAAAAA  
CACCTTGGCCCCGCCGGAAGGGCAGGCACATGGGCATAGGTAAGCGGAAGGGTACAGCCAATGCCCGAATGCCAGA  
GAAGGTCACATGGATGAGGAGAATGAGGATTTTTCGCGCCGGCTGCTCAGAAGATACCGTGAATCTAAGAAGATCGA  
TCGCCACATGTATCACAGCCTGTACCTGAAGGTGAAGGGGAATGTGTTCAAAAACAAGCGGATTCTCATGGAACA  
CATCCACAAGCTGAAGGCAGACAAGGCCCCGAAGAAGCTCCTGGCTGACCAGGCTGAGGCCCCGAGGTCTAAGAC  
CAAGGAAGCACGCAAGCGCCGTGAAGAGCGCCTCCAGGCCAAGAAGGAGGAGATCATCAAGACTTTATCCAAGGA  
GGAAGAGACCAAGAAATTAAAACCTCCCACCTTGTCTGTACATACTGGCCTCTGTGATTACATAGATCAGCCATTA  
AAATAAAACAAGCCTTAATCTGC

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**FIGURE 4799**

MSMLRLQKRLASSVLRCGKKKVWLDPNETNEIANANSRQQIRKLIKDGLIIRKPVTVHSRARCRCRNTLARRKGRH  
MGIGKRKGTANARMPEKVTWMRRMRILRRLRLRYRESKKIDRHHYHSYLYLVKGNVFNKRILMEHIHKLKADKA  
RKKLLADQAEARRSKTKEARKRREERLQAKKEEIIKTLSKEEETKK

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**FIGURE 4800A**

AGCTCCAGCCGCCGTCGCTGCTGCCTGTGTAGTTGCAGCCGCGGCGCCTCCCGCCAGCTCGCCTCGGGGAACAG  
GACGCGCGTGAGCTCCAGGGCXTCCCCGCCCCAGCTTTTCTCGGAACCATGAACCCCAACTGCGCCCGGTGCGGC  
AAGATCGTGTATCCACGAGAAGGTGAAGTGTCTGGATAAGTTCTGGCATAAAGCATGCTTCCATTGCGAGACC  
TGCAAGATGACACTGAACATGAAGAACTACAAGGGCTACGAGAAGAAGCCCTACTGCAACGCACACTACCCCAAG  
CAGTCCTTCACCATGGTGGCGGACACCCCGGAAAACCTTCGCCTCAAGCAACAGAGTGAGCTCCAGAGTCAGGTG  
CGCTACAAGGAGGAGTTTGAGAAGAACAAGGGCAAAGGTTTCAGCGTAGTGCCAGACACGCCCCGAGCTCCAGAGA  
ATCAAGAAGACCCAGGACCAGATCAGTAACATAAAATACCATGAGGAGTTTGAGAAGAGCCGCATGGGGCCCTAGC  
GGGGGCGAGGGCATGGAGCCAGAGCGTCGGGATTACAGGACGGCAGCAGCTACCGGCGGCCCCCTGGAGCAGCAG  
CAGCCTCACCACATCCCGACCAGTGCCCCGTTTACCAGCAGCCCCAGCAGCAGCCGGTGGCCCCAGTCCTATGGT  
GGCTACAAGGAGCCTGCAGCCCCAGTCTCCATACAGCGCAGCGCCCCATCTGTCTTCAGCACATTCCACGGCAT  
CGCATCCGTCCTGGGCGTGACCCGTCCATTCTTCAGTGTCTCTGTTTTTAAAAACCTGCGACAGCTTGTGATTCC  
TACCCCTCTTCCAGCTTCTTTTGCCAACTGAAGCCTTCTTCTGCCACTTCTGCGGGCTCCCTCCTCTGGCAGGCT  
TCCCCCTTGATCGACTTCTTTGGTTTTCTCTCGGATGGAACGGGCATGGGCCTCTCTGGGGGAGGCAGGGCTGGA  
ATGGGAGACCTGTTGGCCTGTGGGCCTCACCTGCCCCCTGTCTCTCTCCCTCACATCCTCCTGCCCAGCTCCTC  
ACATACCCACACATTCCAGGGCTGGGGTGAGCCTGACTGCCAGGACCCAGGTACAGGGGCTCCCTACATTCCCCA  
GAGTGGGATCCACTTCTTGGTTTCTTGGGATGGCGATGGGGACTCTGCCGCTGTGTAGGGACCAGTGGGATGGGCT  
CTACCTCTCTTTCTCAAAGAGGGGGCTCTGCCACCTGGGGTCTCTCTCCCTACCTCCCTCCTCAGGGGCAACAA  
CAGGAGAATGGGGTTCTGTGTGGGGCGAATTCATCCCTCCCCGCGCTTCCTTCGCACACTGTGATTTTGCC  
CTCCTGCCACGCAGACCTGCAGCGGGCAAAGAGCTCCCGAGGAAGCACAGCTTGGGTACAGTTCTTGCCCTTTCT  
TAATTTTAGGGACAGCTACCGGAAGGAGGGGAACAAGGAGTTCTCTTCCGCAGCCCCCTTTCCCCACGCCCCACCC  
CAGTCTCCAGGGACCCTTGCCCTGCCTCCTAGGCTGGAAGCCATGGTCCCAGAGTGTAGGGCAAGGGTGCCCTCAGG  
ACCTTTTGGTCTTCAGCCTCCCTCAGCCCCCAGGATCTGGGTAGGTGGCCGCTCCTCCCTGCTCCTCATGGGAA  
GATGTCTCAGAGCCTTCCATGACCTCCCTCCCCAGCCCAATGCCAAGTGGACTTGAGGCTGCACAAAGTCAGCA  
GGGACCACTAAATCTCCAAGACCTGGTGTGCGGAGGCAGGAGCATGTATGTCTGCAGGTGTCTGACACGCAAGTG  
TGTGAGTGTGAGTGTGAGAGATGGGGCGGGGGTGTGTCTGTAGGTGTCTCTGGGCCTGTGTGTGGGTGGGGTTAT  
GTGAGGGTATGAAGAGCTGTCTTCCCTGAGAGTTTCTCAGAACCCACAGTGAGAGGGGAGGGCTCCTGGGGCA  
GAGAAGTTCCTTAGGTTTTCTTTGGAATGAAATTCCTCCTTCCCCCATCTCTGAGTGGAGGAAGCCCAACCAATC  
TGCCCTTTGCAGTGTGCAGGTGGAAGGTAAAGAGTTGGTGTGGAGTTGGGGCTGCCATAGGGTCTGCAGCCTGC  
TGGGGCTAAGCGGTGGAGGAAGGCTCTGTCACTCCAGGCATATGTTTCCCCATCTCTGTCTGGGGCTACAGAATA  
GGGTGGCAGAAGTGTACCCCTGTGGGTGTCTCCCTCGGGGGCTCTTCCCTTAGACCTCCCCCTCACTTACATAAA  
GCTCCCTTGAAGCAAGAAAGCTCTCTGCTCATGGGTGGCTGTGACAACCTGGCCTCACTTGATTATCTCTGGT  
TTCTTGCCACCCTCTGGGAGTCCCCATCCCATTTTTCATCCTGAGCCCAACCAGGCCCTGCCATTGGCCTCTTGT  
CCCTTGGCACACTTGTACCCACAGGTGAGGGGCAGGACCTGAAGGTATTGGCCTGTTCAACAATCAGTCATCATG  
GGTGTTTTTGTCAACTGCTTGTAAATTGATTGGGGATGTTTGCCCCGAATGAGAGGTTGAGGAAAAGACTGTGG  
GTGGGGAGGCCCTGCCTGACCCATCCCTTTTCTTTCTGGCCCCAGCCTAGGTGGAGGCAAGTGGAAATATCTTAT  
ATTGGGCGATTTGGGGGCTCGGGGAGGCAGAGAATCTCTTGGGAGTCTTGGGTGGCGCTGGTGCATTCTGTTTCC  
TCTTGATCTCAAAGCACAATGTGGATTTGGGGACCAAGGTGAGGGACACATCCCCCTTAGAGGACCTGAGTTTGG  
GAGAGTGGTGAGTGGAAGGGAGGAGCAGCAAGAAGCAGCCTGTTTTCACTCAGCTTAATTCTCCTTCCCAGATAA  
GGCAAGCCAGTCATGGAATCTTGCTGCAGGCCCTCCCTCTACTCTTCTGTCTTAAAAATAGGGGCGGTTTTCTT  
ACACACCCCCAGAGAGAGGAGGGACTGTCACTTGGTGTGAGTGACCGGGGGCTGCTGGGCGTCTGTTCTTTAC  
CAAAACCATCCATCCCTAGAAGAGCACAGAGCCCTGAGGGGCTGGGCTGGGCTGGGCTGAGCCCTGGTCTTCTC  
TACAGTTCACAGAGGTCTTTCAGCTCATTTAATCCAGGAAAGAGGCATCAAAGCTAGAATGTGAATATAACTTT  
TGTGGACCAATACTAAGAATAACAAGAAGCCAGTGGTGAGGAAAGTGCCTTCTCCAGCACTGCCTCCTGTTTT  
CTCCCTCTCATGTCCCTCCAGGGAAAATGACTTTATTGCTTAATTTCTGCCTTTCCCCCTCACACATGCACTTT  
TGGGCTTTTTTTTATAGCTGGAAAAAACAAAATACCACCCTACAAACCTGTATTTAAAAAGAAACAGAAATGACC  
ACGTGAAATTTGCCTCTGTCCAAACATTTTCATCCGTGTGTATGTGTATGTGTGTGAGTGTGTGAAGCCGCCAGTT  
CATCTTTTTTATATGGGGTTGTTGTCTCATTTTGGTCTGTTTTGGTCCCTCCCTCGTGGGCTTGTGTCTGGGATC  
AAACCTTTCTGGCCTGTTATGATTCTGAACATTTGACTTGAACCACAAGTGAATCTTTCTCCTGGTGACTCAAAT

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**FIGURE 4800B**

AAAAGTATAATTTTTACCTGC

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**FIGURE 4801**

CTTTTTCTTTTTCCGGCGTTCAAGATGTCGAAGCGAGGACGTGGTGGGTCCCTCTGGTGCGAAATTCCGGATTT  
CCTTGGGTCTTCCGGTAGGAGCTGTAATCAATTGTGCTGACAACACAGGAGCCAAAAACCTGTATATCATCTCCG  
TGAAGGGGATCAAGGGACGGCTGAACAGACTTCCCGCTGCTGGTGTGGGTGACATGGTGATGGCCACAGTCAAGA  
AAGGCAAACCAGAGCTCAGAAAAAAGGTACATCCAGCAGTGGTCATTGACAACGAAAGTCATACCGTAGAAAAG  
ATGGCGTGTTTCTTTATTTTGAAGATAATGCAGGAGTCATAGTGAACAATAAAGGCGAGATGAAAGGTTCTGCCA  
TTACAGGACCAGTAGCAAAGGAGTGTGCAGACTTGTGGCCCCGATTGCATCCAATGCTGGCAGCATTGCATTGAT  
TCTCCAGTATATTTGTAAAAAATAAAAAAAACTAAACCCATT

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**FIGURE 4802**

MSKRGRGGSSGAKFRISLGLPVGAVINCADNTGAKNLYIISVKGIGRLNRLPAAGVGDMVMATVKKGKPELRKK  
VHPAVVIRQRKSYRRKDGVFLYFEDNAGVIVNNKGEMKGSAITGPVAKECADLWPRIASNAGSIA

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**FIGURE 4803**

TGCCAGCGGGGAGGCTGCAGCCGCGGGTTGTTACAGCTGCTGGAGCAGCAGCGGCCCCGCTCCCGGGAACCGTT  
CCCGGGCCGTTGATCTTCGGCCCCACACGAACAGCAGAGAGGGGCAGCAGGATGAATGTGGGCACAGCGCACAGC  
GAGGTGAACCCCAACACGCGGGTGATGAACAGCCGTGGCATCTGGCTCTCCTACGTGCTGGCCATCGGTCTCCTC  
CACATCGTGCTGCTGAGCATCCCGTTTGTGAGTGTCCCTGTCGTCTGGACCCCTACCAACCTCATTACAACATG  
GGCATGTATATCTTCCTGCACACGGTGAAGGGGACACCCTTTGAGACCCCGGACCAGGGCAAGGCGAGGCTGCTA  
ACCCACTGGGAGCAGATGGATTATGGGGTCCAGTTTACGGCCTCTCGGAAGTTCTTGACCATCACACCCATCGTG  
CTGTACTTCCTCACCAGCTTCTACACTAAGTACGACCAGATCCATTTTGTGCTCAACACCGTGTCCCTGATGAGC  
GTGCTTATCCCAAGCTGCCCCAGCTCCACGGAGTCCGGATTTTGGGAATCAATAAGTACTGAGAGTGCAGCCCC  
TTCCCCTGCCCAGGGTGGCAGGGGAGGGGTAGGGTAAAAGGCATGTGCTGCAACACTGAAGACAGAAAAGAAGAG  
CCTCTGGACACTGCCAGAGATGGGGGTGAGCCTCTGGCCTAATTTCCCCCTCGCTTCCCCCAGTAGCCAACTT  
GGAGTAGCTTGTAGTGGGGTTGGGGTAGGCCCCCTGGGCTCTGACCTTTTCTGAATTTTTTGATCTTTTCCTTTT  
GCTTTTTGAATAGAGACTCCATGGAGTTGGTCATGGAATGGGCTGGGCTCCTGGGCTGAACATGGACCACGCAGT  
TGCGACAGGAGGCCAGGGGAAAAACCCCTGCTCACTTGTTTGGCCTCAGGCAGCCAAAGCACTTTAACCCTGCA  
TAGGGAGCAGAGGGCGGTACGGCTTCTGGATTGTTTCACTGTGATTCTAGGTTTTTTTCGATGCCACGCAGTGTG  
TGCTTTTGTGTATGGAAGCAAGTGTGGGATGGGTCTTTGCCTTTCTGGGTAGGGAGCTGTCTAATCCAAGTCCCA  
GGCTTTTGGCAGCTTCTCTGCAACCCACCGTGGGTCCCTGGTTGGGAGTGGGAGGGTCAGGTTGGGGAAAGATGG  
GGTAGAGTGTAGATGGCTTGTTTCXGAGAGGTGAGGGGGCCAGGGCTGCTGCCATCCTGGCCTGGTGGAGGTTGG  
GGAGCTGTAGGAGAGCTAGTGAGTCGAGACTTAGAAGAATGGGGCCACATAGCAGCAGAGGACTGGTGTAAAGGA



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**FIGURE 4804**

MNVGTAHSEVNPNTTRVMNSRGIWLSYVLAIGLLHIVLLSIPFVSVPVVWTLTNLIHNMGMYIFLHTVKGTPFETP  
DQGKARLLTHWEQMDYGVQFTASRKFLTITPIVLYFLTSFYTKYDQIHFVLNTVSLMSVLIPKLPQLHGVRIFGI  
NKY

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**FIGURE 4805**

GAATTCGCGGCCGCTGGTTTGCAGCTGCTCCGTCATCGTGC GGCCCCGACGCTATCTCGCGCTCGTGTGCAGGCC  
GGCTCGGCTCCTGGTCCCCGGTGCGAGGGTTAACGCGAGGCCCGGCTCGGTCCCCGGACTAGGCCGTGACCCC  
GGGTGCCATGAAGCAGGAGGGCTCGGCGCGGCGCGCGGCGGACAAGGCGAAACCGCCCGCGGAGGAGA  
ACAAGAACCCCCACCGCCGCCGCCCCCAGGATGTGGAGATGAAAGAGGAGGCAGCGACGGGTGGCGGGTCAAC  
GGGGGAGGCAGACGGCAAGACGGCGGCGGCGAGCGGTTGAGCACTCCAGCGAGAGCTGGACACAGTCACCTTGGA  
GGACATCAAGGAGCACGTGAAACAGCTAGAGAAAGCGGTTTCAGGCAAGGAGCCGAGATTCGTGCTGCGGGCCCT  
GCGGATGCTGCCTTCCACATCACGCCGCCTCAACCACTATGTTCTGTATAAGGCTGTGCAGGGCTTCTTCACTTC  
AAATAATGCCACTCGAGACTTTTTGCTCCCCCTTCTGGAAGAGCCCATGGACACAGAGGCTGATTTACAGTTCCG  
TCCCCGCACGGGAAAAGCTGCGTCGACACCCCTCCTGCCTGAAGTGGAAGCCTATCTCCAACCTCCTCGTGGTCAT  
CTTCATGATGAACAGCAAGCGCTACAAAGAGGCACAGAAGATCTCTGATGATCTGATGCAGAAGATCAGTACTCA  
GAACCGCCGGGCCCCCTAGACCTTGTAGCCGCAAAGTGTTACTATTATCACGCCCCGGGTCTATGAGTTCCTGGACAA  
GCTGGATGTGGTGCGCAGCTTCTTGCA TGCTCGGCTCCGGACAGCTACGCTTCGGCATGACGCAGACGGGCAGGC  
CACCTGTGTAACCTCCTGCTGCGGAATTACCTACACTACAGCTTGACGACCAGGCTGAGAAGCTGGTGTCCAA  
GTCTGTGTTCCAGAGCAGGCCAACAACAATGAGTGGGCCAGGTACCTCTACTACACAGGGCGAATCAAAGCCAT  
CCAGCTGGAGTACTCAGAGGCCCGGAGAACGATGACCAACGCCCTTCGCAAGGCCCTCAGCACACAGCTGTCGG  
CTTCAAACAGACGGTGCACAAGCTTCTCATCGTGGTGGAGCTGTTGCTGGGGGAGATCCCTGACCGGCTGCAGTT  
CCGCCAGCCCTCCCTCAAGCGCTCACTCATGCCCTATTTCTTCTGACTCAAGCTGTCAGGACAGGAAACCTAGC  
CAAGTTCAACCAGGTCTGGATCAGTTTGGGGAGAAGTTTCAAGCAGATGGGACCTACACCCTAATTATCCGGCT  
GCGGCACAACGTGATTAAGACAGGTGTACGCATGATCAGCCTCTCCTATTCCCGAATCTCCTTGGCTGACATCGC  
CCAGAAGCTGCAGTTGGATAGCCCCGAAGATGCAGAGTTTATTGTTGCCAAGGCCATCCGGGATGGTGTGATTGA  
GGCCAGCATCAACCACGAGAAGGGCTATGTCCAATCCAAGGAGATGATTGACATCTATTCCACCCGAGAGCCCCA  
GCTAGCCTTCCACCAGCGCATCTCCTTCTGCCTAGATATCCACAACATGTCTGTCAAGGCCATGAGGTTTCTCTC  
CAAATCGTACAACAAGGACTTGGAGTCTGCAGAGGAACGGCGTGAGCGAGAACAGCAGGACTTGGAGTTTGCCAA  
GGAGATGGCAGAAGATGATGATGACAGCTTCCCTTGAGCTGGGGGGCTGGGGAGGGGTAGGGGGAATGGGGACAG  
GCTCTTTCCCCCTTGGGGGTCCCCTGCCCAGGGCACTGTCCCATTTTCCACACACAGCTCATATGCTGCATTC  
GTGCAGGGGGTGGGGGTGCTGGGAGCCAGCCACCTGACCTCCCCAGGGCTCCTCCCCAGCCGGTGACTTACTG  
TACAGCAGGCAGGAGGGTGGGCAGGCAACCTCCCCGGGCAGGGTCTGGCCAGCAGTGTGGGAGCAGGAGGGGAA  
GGATAGTTCTGTGTACTCCTTTAGGGAGTGGGGGACTAGAACTGGGATGTCTTGGCTTGTATGTTTTTTGAAGCT  
TCGATTATGATTTTTTAAACAATAAAAAGTTCTCCCAAAAAAAAAAAAAAAAAAAAAAAAAAAGCGCCGCGAAT  
TC

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**FIGURE 4806**

MKQEGSARRRGADKAKPPPGGGEQEPPPPPPAPQDVMKEEAATGGGSTGEADGKTAAAAVEHSQRELDTVTLEDI  
KEHVKQLEKAVSGKEPRFVLRALRMLPSTSRRLNHYVLYKAVQGFFTSNNATRDFLLPFLEEPMDTEADLQFRPR  
TGKAASTPLLPEVEAYLQLLVVIFMMNSKRYKEAQKISDDLMOKISTQNNRALDLVAAKCYHHARVYEFLLDKLD  
VVRSLHARLRTATLRHDADGQATLLNLLLRNYLHYSLYDQAEKLVSKSVFPEQANNNEWARYLYYTGRKAIQL  
EYSEARRTMTNALRKAPQHTAVGFKQTVHKLLIVVELLLGEIPDRLQFRQPSLKRSLMPYFLLTQAVRTGNLAKF  
NQVLDQFGEKFQADGTYTLIIRLRHNVIKTGVRMISLSYSRISLADIAQKLQLDSPEDAEEFIVAKAIRDGVIEAS  
INHEKGYVQSKEMIDIYSTREPQLAFHQRI SFCLDIHNMSVKAMRFPPKSYNKDLESAAEERREREQQDLEFAKEM  
AEDDDDSFP

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**FIGURE 4807**

CTCCTCTCCAGCCCTTCTCCTGTGTGCCTGCCTCCTGCCGCCGCCACCATGACCACCTCCATCCGCCAGTTCACC  
TCCTCCAGCTCCATCAAGGGCTCCTCCGGCCTGGGGGGCGGCTCGTCCCGCACCTCCTGCCGGCTGTCTGGCGGC  
CTGGGTGCCGGCTCCTGCAGGCTGGGATCTGCTGGCGGCCTGGGCAGCACCCCTCGGGGGTAGCAGCTACTCCAGC  
TGCTACAGCTTTGGCTCTGGTGGTGGCTATGGCAGCAGCTTTGGGGGTGTTGATGGGCTGCTGGCTGGAGGTGAG  
AAGGCCACCATGCAGAACCTCAATGACCGCCTGGCCTCCTACCTGGACAAGGTGCGTGCCCTGGAGGAGGCCAAC  
ACTGAGCTGGAGGTGAAGATCCGTGACTGGTACCAGAGGCAGGCCCGGGGGCCCGCCGTGACTACAGCCAGTAC  
TACAGGACAATTGAGGAGCTGCAGAACAAGATCCTCACAGCCACCGTGGACAATGCCAACATCCTGCTACAGATT  
GACAATGCCCGTCTGGCTGCTGATGACTTCCGCACCAAGTTTGAGACAGAGCAGGCCCTGCGCCTGAGTGTGGAG  
GCCGACATCAATGGCCTGCGCAGGGTGCTGGATGAGCTGACCCTGGCCAGAGCCGACCTGGAGATGCAGATTGAG  
AACCTCAAGGAGGAGCTGGCCTACCTGAAGAAGAACCACGAGGAGGAGATGAACGCCCTGCGAGGCCAGGTGGGT  
GGTGAGATCAATGTGGAGATGGACGCTGCCCCAGGCGTGGACCTGAGCCGCATCCTCAACGAGATGCGTGACCAG  
TATGAGAAGATGGCAGAGAAGAACCGCAAGGATGCCGAGGATTGGTTCTTCAGCAAGACAGAGGAAGTGAACCGC  
GAGGTGGCCACCAACAGTGAGCTGGTGCAGAGTGGCAAGAGTGAGATCTCGGAGCTCCGGCGCACCATGCAGGCC  
TTGGAGATAGAGCTGCAGTCCCAGCTCAGCATGAAAGCATCCCTGGAGGGCAACCTGGCGGAGACAGAGAACCGC  
TACTGCGTGCAGCTGTCCCAGATCCAGGGGCTGATTGGCAGCGTGGAGGAGCAGCTGGCCAGCTTCGCTGCGAG  
ATGGAGCAGCAGAACCAGGAATACAAAATCCTGCTGGATGTGAAGACGCGGCTGGAGCAGGAGATTGCCACCTAC  
CGCCGCTGCTGGAGGGAGAGGATGCCACCTGACTCAGTACAAGAAAGAACCGGTGACCACCCGTCAGGTGCGT  
ACCATTGTGGAAGAGGTCCAGGATGGCAAGGTTCATCTCCTCCCGCAGCAGGTCCACCAGACCACCCGCTGAGGA  
CTCAGCTACCCCGGCCGGCCACCCAGGAGGCAGGGAGCAGCCGCCCATCTGCCCCACAGTCTCCGGCCTCTCCA  
GCCTCAGCCCCCTGCTTCAGTCCCTTCCCCATGCTTCCTTGCTGATGACAATAAAGCTTGTTGACTCAGCTAAA  
AAAAAAAAAAAA

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**FIGURE 4808**

MTTSIRQFTSSSSIKGSSGLGGGSSRTSCRLSGGLGAGSCRLGSAGGLGSTLGGSSYSSCYSGSGGGYGSSFGG  
VDGLLAGGEKATMQNLNDRLASYLKVRAL EEANTELEVKIRDWYQRQAPGPARDYSQYYRTIEELQNKILTATV  
DNANILLQIDNARLAADDFR TKFETE QALRLSVEADINGLRRVLDELTLARADLEMQIENLKEELAYLKKNHEEE  
MNALRGQVGGEINVEMDAAPGVDLSRILNEMRDQYEKMAEKNRKAEDWFFSKTEELNREVATNSELVQSGKSEI  
SELRRMQALEIELQSQLSMKASLEGNLAETENRYCVQLSQIQGLIGSVEEQLAQLRCEMEQQNQEYKILLDVKT  
RLEQEIATYRRLLEGEDAHLTQYKKEPVTTRQVRTIVEEVQDGKVISSREQVHQTR

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**FIGURE 4809**

ATGACCACCTGCAGCCGCCAGTTCACCTCCTCCAGCTCCATGAAGGGCTCCTGCGGCATCGGAGGCGGCATCGGG  
GGCGGCTCCAGCCGCATCTCCTCCGTCTGGCCGGAGGGTCTGCGGTGCCCCAGCACCTACGGGGGCGGCCTG  
TCTGTCTCCTCTCGCTTCTCCTCTGGGGGAGCCTGCGGGCTGGGGGCGGCTATGGCGGTGGCTTCAGCAGCAGC  
AGCAGCTTTGGTAGTGGCTTCGGGGGAGGATATGGTGGTGGCCTTGGTGCTGGCTTCGGTGGTGGCTTGGGTGCT  
GGCTTTGGTGGTGGTTTTGCTGGTGGTGGTGGCTTCTGGTGGGCAGTGAGAAGGTGACCATGCAGAACCTCAAT  
GACCGCTGGCCTCCTACCTGGACAAGGTGCGTGCTCTGGAGGAGGCCAACGCCGACCTGGAAGTGAAGATCCGT  
GACTGGTACCAGAGGCAGCGGCCAGTGAGATCAAAGACTACAGTCCCTACTTCAAGACCATCGAGGACCTGAGG  
AACAAGATCATTGCGGCCACCATTGAGAATGCGCAGCCCATTTTGCAGATTGACAATGCCAGGCTGGCAGCCGAT  
GAC TTCAGGACCAAGTATGAGCACGAAC TGGCCCTGCGGCAGACTGTGGAGGCCGACGTCAATGGCCTGCGCCGG  
GTGTTGGATGAGCTGACCCTGGCCAGGACTGACCTGGAGATGCAGATCGAAGGCCTGAAGGAGGAGCTGGCCTAC  
CTGAGGAAGAACCACGAGGAGGAGATGCTTGCTCTGAGAGGTGAGACCGGCGGAGATGTGAACGTGGAGATGGAT  
GCTGCACCTGGCGTGGACCTGAGCCGCATCCTGAATGAGATGCGTGACCAGTACGAGCAGATGGCAGAGAAAAAC  
CGCAGAGACGCTGAGACCTGGTTCCCTGAGCAAGACCGAGGAGCTGAACAAAGAAGTGGCCTCCAACAGCGAACTG  
GTACAGAGCAGCCGAGTGAGGTGACGGAGCTCCGGAGGGTGCTCCAGGGCCTGGAGATTGAGCTGCAGTCCCAG  
CTCAGCATGAAAGCATCCCTGGAGAACAGCCTGGAGGAGACCAAAGGCCGCTACTGCATGCAGCTGTCCCAGATC  
CAGGGACTGATTGGCAGTGTGGAGGAGCAGCTGGCCCAGCTACGCTGTGAGATGGAGCAGCAGAGCCAGGAGTAC  
CAGATCTTGCTGGATGTGAAGACGCGGCTGGAGCAGGAGATTGCCACCTACCGCCGCTGCTGGAGGGCGAGGAT  
GCCCACCTTTCTCCAGCAAGCATCTGGCCAATCCTATTCTTCCCGCGAGGTCTTCACCTCCTCCTCGTCCTCT  
TCGAGCCGTCAGACCCGGCCCATCCTCAAGGAGCAGAGCTCATCCAGCTTCAGCCAGGGCCAGAGTCTCTAG

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**FIGURE 4810**

CGGGGGTTGCTCCGTCCGTGCTCCGCCTCGCCATGACTTCCTACAGCTATCGCCAGTCGTCGGCCACGTCGTCCT  
TCGGAGGCCTGGGCGGCGGCTCCGTGCGTTTTGGGCCGGGGGTCGCTTTTCGCGCGCCAGCATTCACGGGGGCT  
CCGGCGGGCCGCGCGGTATCCGTGTCCTCCGCCCCGCTTTGTGTCTCGTCCTCCTCGGGGGGCTACGGCGGCGGCT  
ACGGCGGGCGTCTGACCGCGTCCGACGGGCTGCTGGCGGGCAACGAGAAGCTAACCATGCAGAACCTCAACGACC  
GCCTGGCCTCCTACCTGGACAAGGTGCGCGCCCTGGAGGCGGCCAACGGCGAGCTAGAGGTGAAGATCCGCGACT  
GGTACCAGAAGCAGGGGCTGGGGCCCTCCCGCGACTACAGCCACTACTACACGACCATCCAGGACCTGCGGGACA  
AGATTCTTGGTGCCACCATTGAGAACTCCAGGATTGTCTGTCAGATCGACAACGCCCCGTCTGGCTGCAGATGACT  
TCCGAACCAAGTTTGAGACGGAACAGGCTCTGCGCATGAGCGTGGAGGCCGACATCAACGGCCTGCGCAGGGTGC  
TGGATGAGCTGACCTGGCCAGGACCGACCTGGAGATGCAGATCGAAGGCCTGAAGGAAGAGCTGGCCTACCTGA  
AGAAGAACCATGAGGAGGAAATCAGTACGCTGAGGGGCCAAGTGGGAGGCCAGGTCAGTGTGGAGGTGGATTCCG  
CTCCGGGCACCGATCTCGCCAAGATCCTGAGTGACATGCGAAGCCAATATGAGGTCATGGCCGAGCAGAAACCGGA  
AGGATGCTGAAGCCTGGTTCACCAGCCGGACTGAAGAATTGAACCGGGAGGTGCTGGCCACACGGAGCAGCTCC  
AGATGAGCAGGTCCGAGGTTACTGACCTGCGGCGCACCTTCAGGGTCTTGAGATTGAGCTGCAGTCACAGCTGA  
GCATGAAAGCTGCCTTGGAAGACACACTGGCAGAAACGGAGGCGCGCTTTGGAGCCCAGCTGGCGCATATCCAGG  
CGCTGATCAGCGGTATTGAAGCCCAGCTGGCGGATGTGCGAGCTGATAGTGAGCGGCAGAATCAGGAGTACCAGC  
GGCTCATGGACATCAAGTCGCGGCTGGAGCAGGAGATTGCCACCTACCGCAGCCTGCTCGAGGGACAGGAAGATC  
ACTACAACAATTTGTCTGCCTCCAAGTCTCTGAGGCGAGCAGGCTCTGGGGCTTCTGCTGTCCTTTGGAGGGTG  
TCTTCTGGGTAGAGGGATGGGAAGGAAGGGACCCTTACCCCCGGCTCTTCTCCTGACCTGCCAATAAAAAATTTAT  
GGTCCAAGGG

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**FIGURE 4811**

MTSYSYRQSSATSSFGGLGGGSVRFPGVAFRAPSIHGGSGGRGVSVSSARFVSSSSSSGGYGGGYGGVLTASDGL  
LAGNEKLTMQNLDRLASYLDKVRALAEANGELVKIRDWYQKQGPSPRDYSHYYTTIQDLRDKILGATIENSR  
IVLQIDNARLAADDFRTKFFETEALRMSVEADINGLRRVLDELTLARTDLEMQIEGLKEELAYLKKNHEEEISTL  
RGQVGGQVSVEVDSAPGTDLAKILSDMRSQYEVMAEQNRKDAEAWFTSRTEELNREVAGHTEQLQMSRSEVTDLR  
RTLQGLEIELQSQLSMKAALEDTLAETEARFGAQLAHIQALISGIEAQLADVRLADSERQNEQYQRLMDIKSRLEQ  
EIATYRSLLLEGQEDHYNNLSASKVL



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**FIGURE 4812**

GGTACCTCCTGCCAGCACCTCTTGGGTTTGGCTGAGAACTCACGGGCTCCAGCTACCTGGCCATGACCACCACATT  
TCTGCAAACTTCTTCCCTCCACCTTTGGGGGTGGCTCAACCCGAGGGGGTTCCCTCCTGGCTGGGGGAGGTGGCTT  
TGGTGGGGGGAGTCTCTCTGGGGGAGGTGGAAGCCGAAGTATCTCAGCTTCTTCTGCTAGGTTTGTCTCTTCAGG  
GTCAGGAGGAGGATATGGGGGTGGCATGAGGGTCTGTGGCTTTGGTGGAGGGGCTGGTAGTGTTCGGTGGAGG  
CTTTGGAGGGGGCGTTGGTGGGGGTTTTGGTGGTGGCTTTGGTGGTGGCGATGGTGGTCTCCTCTCTGGCAATGA  
GAAAATTACCATGCAGAACCTCAATGACCGCTGGCCTCCTACCTGGACAAGGTACGTGCCCTGGAGGAGGCCAA  
TGCTGACCTGGAGGTGAAGATCCATGACTGGTACCAGAAGCAGACCCAGCCAGCCAGAATGCGACTACAGCCA  
ATACTTCAAGACCATTGAAGAGCTCCGGGACAAGATCATGGCCACCACCATCGACAACCTCCCGGGTCATCCTGGA  
GATCGACAATGCCAGGCTGGCTGCGGACGACTTCAGGCTCAAGTATGAGAATGAGCTGGCCCTGCGCCAGGGCGT  
TGAGGCTGACATCAACGGCTTGCGCCGAGTCCTGGATGAGCTGACCCTGGCCAGGACTGACCTGGAGATGCAGAT  
CGAGGGCCTGAATGAGGAGCTAGCCTACCTGAAGAAGAACCACGAAGAGGAGATGAAGGAGTTCAGCAGCCAGCT  
GGCCGGCCAGGTCAATGTGGAGATGGACGCAGCACCGGGTGTGGACCTGACCCGTGTGCTGGCAGAGATGAGGGA  
GCAGTACGAGGCCATGGCGGAGAAGAACC GCCGGGATGTGCGAGGCCTGGTTCTTCAGCAAGACTGAGGAGCTGAA  
CAAAGAGGTGGCCTCCAACACAGAAATGATCCAGACCAGCAAGACGGAGATCACAGACCTGAGACGCACGATGCA  
GGAGCTGGAGATCGAGCTGCAGTCCCAGCTCAGCATGAAAGCTGGGCTGGAGAACTCACTGGCCGAGACAGAGTG  
CCGCTATGCCACGCAGCTGCAGCAGATCCAGGGGCTCATTGGTGGCCTGGAGGCCAGCTGAGTGAGCTCCGATG  
CGAGATGGAGGCTCAGAACCAGGAGTACAAGATGCTGCTTGACATAAAGACACGGCTGGAGCAGGAGATCGCTAC  
TTACCGCAGCCTGCTCGAGGGCCAGGATGCCAAGATGGCTGGCATTGGCATCAGGGAAGCCTCTTCAGGAGGTGG  
TGGTAGCAGCAGCAATTTCCACATCAATGTAGAAGAGTCAGTGGATGGACAGGTGGTTTCTTCCCAAGAGAGA  
AATCTAAGTGTCTATTGCAGGAGAAACGTCCCTTGCCACTCCCCACTCTCATCAGGCCAAGTGGAGGACTGGCCA  
GAGGGCCTGCACATGCAAACTCCAGTCCCTGCCTTCAGAGAGCTGAAAAGGGTCCCTCGGTCTTTTATTTTCAGGG  
CTTTGCATGCGCTCTATTCCCCCTCTGCCTCTCCCCACCTTCTTTGGAGCAAGGAGATGCAGCTGTATTGTGTAA  
CAAGCTCATTGTGTACAGTGTCTGTTTCATGTAATAAAGAATTACTTTTCCTTTTGCAAT

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**FIGURE 4813**

MTTFLQTSSSTFGGGSTRGGSLLAGGGGFGGGSLSGGGGSRSISASSARFVSSGSGGGYGGGMRVCGFGGGAGS  
VFGGGFGGGVGGGFGGGFGGGDGGLLSGNEKITMQNLNDRLASYLDKVRALEEANADLEVKIHDWYQKQTPASPE  
CDYSQYFKTIEELRDKIMATTIDNSRVILEIDNARLAADDLRLKYENELALRQGV EADINGLRRVLDELTLARTD  
LEMQIEGLNEELAYLKKNHHEEMKEFSSQLAGQVNVEMDAAPGVDLTRVLAEMREQYEAMAEKNRRDVEAWFFSK  
TEELNKEVASNTEMIQTSKTEITDLRRTMQELEIELQSQLSMKAGLENSLAETECRYATQLQQIQGLIGGLEAQL  
SELRCEMEAQNQEYKMLLDIKTRLEQEIATYRSLLEGQDAKMAGIGIREASSGGGGSSSNFHNVEESVDGQVVS  
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**FIGURE 4814**

GGCCAAGCAAGCTTCTATCTGCACCTGCTCTCAATCCTGCTCTCACCATGAGCCTCCGCCTGCAGAGCTCCTCTG  
CCAGCTATGGAGGTGGTTTTCGGGGGTGGCTCTTGCCAGCTGGGAGGAGGCCGTGGTGTCTCTACCTGTTCAACTC  
GGTTTGTGTCTGGGGGATCAGCTGGGGGGCTATGGAGGCGGCGTGAGCTGTGGTTTTGGTGGAGGGGCTGGTAGTG  
GCTTTGGAGGTGGCTATGGAGGTGGCCTTGGAGGTGGCTATGGAGGTGGCCTTGGAGGTGGCTTTGGTGGGGGTT  
TTGCTGGTGGCTTTGTTGACTTTGGTGCTTGTGATGGCGGCCCTCCTCACTGGCAATGAGAAGATCACCATGCAGA  
ACCTCAACGACCGCCTGGCTTCCTACCTGGAGAAGGTGCGCGCCCTGGAGGAGGCCAACGCTGACCTGGAGGTGA  
AGATCCGTGACTGGCACCTGAAGCAGAGCCCAGCTAGCCCTGAGCGGGACTACAGCCCCTACTACAAGACCATTG  
AAGAGCTCCGGGACAAGATCCTGACCGCCACCATTGAAAACAACCGGGTCATCCTGGAGATTGACAATGCCAGGC  
TGGCTGTGGACGACTTCAGGCTCAAGTATGAGAATGAGCTGGCCCTGCGCCAGAGCGTGGAGGCCGACATCAACG  
GCCTGCGCCGGGTGCTGGATGAGCTCACTCTGTCTAAGACTGACCTGGAGATGCAGATCGAGAGCCTGAATGAAG  
AGCTAGCCTACATGAAGAAGAACCATGAAGAGGAGATGAAGGAATTTAGCAACCAGGTGGTCCGCCAGGTCAACG  
TGGAGATGGATGCCACCCCAAGCATTGACCTGACCCGCGTGCTGGCAGAGATGAGGGAGCAGTACGAGGCCATGG  
CAGAGAGGAACCGCCGGGATGCTGAGGAATGGTTCCACGCCAAGAGTGCAGAGCTGAACAAGGAGGTGTCTACCA  
ACACTGCCATGATTGAGACCAGCAAGACAGAGATCACGGAGCTCAGGCGCACGCTCCAAGGCCTGGAGATTGAGC  
TGCAGTCCCAGCTGAGCATGAAAGCGGGGCTGGAGAACACGGTGGCAGAGACGGAGTGCCGCTATGCCCTGCAGC  
TGCAGCAGATCCAGGGACTCATCAGCAGCATCGAGGCCAGCTGAGCGAGCTCCGCAGTGAGATGGAGTGCCAGA  
ACCAAGAGTACAAGATGCTGCTGGACATCAAGACACGTCTGGAGCAGGAGATCGCCACCTACCGCAGCCTGCTCG  
AGGGCCAGGACGCCAAGAAGCGTCAGCCCCCGTTAGCACCTCTGTTACCACGACTTCTAGTGCCCTCTGTTACCACC  
ACCTCTAATGCCTCTGGTCGCCGCACTTCTGATGTCCGTAGGCCTTAAATCTGCCTGGCGTCCCCTCCCTCTGTC  
TTCAGCACCCAGAGGAGGAGAGAGCCGGCAGTTCCCTGCAGGAGAGAGGAGGGGCTGCTGGACCCAAGGCTCAGT  
CCCTCTGCTCTCAGGACCCCTGTCTGACTCTCTCCTGATGGTGGGCCCTCTGTGCTCTTCTCTTCCGGTCGGA  
TCTCTCTCCTCTCTGACCTGGATACGCTTTGGTTTCTCAACTTCTCTACCCCAAAGAAAAGATTATTCAATAAAG  
TTTCTGCCTTTCTGCAAAACATAAAAA

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**FIGURE 4815**

MSLRQSSSASYGGGFGGGSCQLGGGRGVSTCSTRFVSGGSAGGYGGGVSCGFGGGAGSGFGGGYGGGLGGGYGG  
GLGGGFGGGFAGGFVDFGACDGGLLTGNEKITMQNLNDRLASYLEKVRALEEANADLEVKIRDWHLKQSPASPER  
DYSPYYKTIEELRDKILTATIENNRVILEIDNARLAVDDFRLKYENELALRQSV EADINGLRRVLDELTL SKTDL  
EMQIESLNEELAYMKKNHEEEMKEFSNQVVGQVNVEMDATPGIDLTRVLAEMREQYEAMAERNRRDAEEWFHAKS  
AELNKEVSTNTAMIQTSKTEITELRRTLQGLEIELQSQLSMKAGLENTVAETECRYALQLQQIQGLISSIEAQLS  
ELRSEMECQNQEYKMLLDIKTRLEQEIATYRSLLLEGQDAKKRQPP

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**FIGURE 4816**

ACCCGAGCACCTTCTCTTCACTCAGCCAACCTGCTCGCTCGCTCACCTCCCTCCTCTGCACCATGACTACCTGCAG  
CCGCCAGTTACCTCCTCCAGCTCCATGAAGGGCTCCTGCGGCATCGGGGGCGGCATCGGGGGCGGCTCCAGCCG  
CATCTCCTCCGTCTTGGCCGGAGGGTCCTGCCGCGCCCCCAGCACCTACGGGGGCGGCCTGTCTGTCTCATCCTC  
CCGCTTCTCCTCTGGGGGAGCCTACGGGCTGGGGGGCGGCTATGGCGGTGGCTTCAGCAGCAGCAGCAGCAGCTT  
TGGTAGTGGCTTTGGGGGAGGATATGGTGGTGGCCTTGGTGCTGGCTTGGGTGGTGGCTTTGGTGGTGGCTTTGC  
TGGTGGTGGTGGCTTCTGGTGGGCAGTGAGAAGGTGACCATGCAGAACCTCAATGACCGCCTGGCCTCCTACCT  
GGACAAGGTGCGTGCTCTGGAGGAGGCCAACGCCGACCTGGAAGTGAAGATCCGTGACTGGTACCAGAGGCAGCG  
GCCTGCTGAGATCAAAGACTACAGTCCCTACTTCAAGACCATTGAGGACCTGAGGAACAAGATTCTCACAGCCAC  
AGTGGACAATGCCAATGTCCTTCTGCAGATTGACAATGCCCGTCTGGCCGCGGATGACTTCCGCACCAAGTATGA  
GACAGAGTTGAACCTGCGCATGAGTGTGGAAGCCGACATCAATGGCCTGCGCAGGGTGCTGGACGAACTGACCCT  
GGCCAGAGCTGACCTGGAGATGCAGATTGAGAGCCTGAAGGAGGAGCTGGCCTACCTGAAGAAGAACCACGAGGA  
GGAGATGAATGCCCTGAGAGGCCAGGTGGGTGGAGATGTCAATGTGGAGATGGACGCTGCACCTGGCGTGGACCT  
GAGCCGCATTCTGAACGAGATGCGTGACCAGIATGAGAAGATGGCAGAGAAGAACC GCAAGGATGCCGAGGAATG  
GTTCTTCACCAAGACAGAGGAGCTGAACCGCGAGGTGGCCACCAACAGCGAGCTGGTGCAGAGCGGCAAGAGCGA  
GATCTCGGAGCTCCGGCGCACCATGCAGAACCTGGAGATTGAGCTGCAGTCCCAGCTCAGCATGAAAGCATCCCT  
GGAGAACAGCCTGGAGGAGACCAAAGGTGCTACTGCATGCAGCTGGCCCAGATCCAGGAGATGATTGGCAGCGT  
GGAGGAGCAGCTGGCCCAGCTCCGCTGCGAGATGGAGCAGCAGAACCAGGAGTACAAGATCCTGCTGGACGTGAA  
GACGCGGCTGGAGCAGGAGATCGCCACCTACCGCCGCTGCTGGAGGGCGAGGACGCCACCTCTCCTCCTCCCA  
GTTCTCCTCTGGATCGCAGTCATCCAGAGATGTGACCTCCTCCAGCCGCCAAATCCGCACCAAGGTCATGGATGT  
GCACGATGGCAAGGTGGTGTCCACCCACGAGCAGGTCTTCGCACCAAGAAGTAGGGCTGCCAGCCCCGCTCAG  
GCCTAGGAGGCCCCCGTGTGGACACAGATCCCACTGGAAGATCCCCTCTCCTGCCCAAGCACTTCACAGCTGGA  
CCCTGCTTACCCCTACCCCCCTCCTGGCAATCAATACAGCTTCATTATCTGAGTTGCAT

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**FIGURE 4817**

MTTCSRQFTSSSSMKGSCGIGGGIGGGSSRISSVLAGGSCRAPSTYGGGLSVSSSRFSSGGAYGLGGGYGGGFSS  
SSSSFSGSGFGGGYGGGLGAGLGGGFGGGFAGGDGLLVGSEKVTMQLNDRLASYLDKVRALEEANADLEVKIRDW  
YQRQRP AEIKDYSPYFKTIEDLRNKILTATVDNANVLLQIDNARLAADDFRTKYETELNLRMSVEADINGLRRVL  
DETLARADLEMQIESLKEELAYLKKNHEEEMNALRGQVGGDVNVEMDAAPGVDSLRI LNEMRDQYEKMAEKNRK  
DAEEWFFTKTEELNREVATNSELVQSGKSEISELRRTMQLNLEIELQSLSMKASLENSLEETKGRYCMQLAQIQE  
MIGSVEEQLAQLRCEMEQQNQEYKILLDVKTRLEQEIATYRRLLEGEDAHLSSSQFSSGSQSSRDVTSSSRQIRT  
KVMDVHDGKVVSTHEQVLRITKN

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**FIGURE 4818**

AGCCCCCTGCCCCCTCGCCGCCCGCCGCTGCCTGGGCGGGCCGAGGATGCGGCGCAGCGCCTCGGCGGGCCAGGC  
TTGCTCCCCCTCCGGCACGCCTGCTAACTTCCCCCGCTACGTCCCCGTTGCCCCGCCGGGCCGCCCCGTCTCCCCG  
CGCCCTCCGGGTTCGGGTCTCCAGGAGCGCCAGGCGCTGCCGCCGTGTGCCCTCCGCCGCTCGCCCCGCGCGCCCCG  
CGCTCCCCGCTGCGCCAGCGCCCCGCGCCCGCGCCAGTCCTCGGGCGGTTCATGCTGCCCCCTCTGCCTCGTGG  
CCGCCCTGTGTGGCCGCCGGGCCCGGGCCGAGCCTGGGCGACGAAGCCATCCACTGCCCCGCCCTGCTCCGAGG  
AGAAGCTGGCGCGCTGCCGCCCCCGGTGGGCTGCGAGGAGCTGGTGCGAGAGCCGGGCTGCGGCTGTTGCGCCA  
CTTGCGCCCTGGGCTTGGGGATGCCCTGCGGGGTGTACACCCCCGTTGCGGCTCGGGCCTGCGCTGCTACCCGC  
CCCAGGGGTGGAGAAGCCCCCTGCACACTGATGCACGGGCAAGGCGTGTGCATGGAGCTGGCGGAGATCGAGG  
CCATCCAGGAAAGCCTGCAGCCCTCTGACAAGGACGAGGGTGACCACCCCAACAACAGCTTCAGCCCCGTAGCG  
CCCATGACCGCAGGTGCCTGCAGAAGCACTTCGCCAAAATTGAGACCGGAGCACCAGTGGGGGCAAGATGAAGG  
TCAATGGGGCGCCCCGGGAGGATGCCCGGCTGTGCCCCAGGGCTCCTGCCAGAGCGAGCTGCACCGGGCGCTGG  
AGCGGCTGGCCGCTTACAGAGCCGACCCACGAGGACCTCTACATCATCCCCATCCCCAACTGCGACCGCAACG  
GCAACTTCCACCCCAAGCAGTGTACCCAGCTCTGGATGGGCGAGCGTGGCAAGTGTGGTGTGTGGACCGGAAGA  
CGGGGGTGAAGCTTCCGGGGGGCCTGGAGCCAAAGGGGGAGCTGGACTGCCACCAGCTGGCTGACAGCTTTCGAG  
AGTGAGGCCTGCCAGAGGCCAGGGACTCAGCGTCCCCTGCTACTCCTGTGCTCTGGAGGCTGCAGAGCTGACCC  
AGAGTGGAGTCTGAGTCTGAGTCTGTCTGTGCTGCGGCCAGAAAGTTTCCCTCAAATGCGCGTGTGCACGTGT  
GCGTGTGCGTGTGTGTGTGTGTTTGTGAGCATGGGTGTGCCCTTGGGGTAAGCCAGAGCCTGGGGTGTCTCT  
TTGGTGTACACAGCCCAAGAGGACTGAGACTGGCACTTAGCCCAAGAGGTCTGAGCCCTGGTGTGTTTCCAGAT  
CGATCCTGGATTCACTCACTCACTCATTCTTCACTCATCCAGCCACCTAAAAACATTTACTGACCATGTACTAC  
GTGCCAGCTCTAGTTTTTCAGCCTTGGGAGGTTTTATTCTGACTTCCTCTGATTTTGGCATGTGGAGACACTCCTA  
TAAGGAGAGTTCAAGCCTGTGGGAGTAGAAAAATCTCATTCCCAGAGTCAGAGGAGAAGAGACATGTACCTTGAC  
CATCGTCTTCTCTCAAGCTAGCCAGAGGGTGGGAGCCTAAGGAAGCGTGGGGTAGCAGATGGAGTAATGGTCA  
CGAGGTCCAGACCCACTCCCAAAGCTCAGACTTGCCAGGCTCCCTTTCTCTTCTTCCCCAGGTCTTCTTTAGG  
TCTGGTTGTTGCACCATCTGCTTGGTTGGCTGGCAGCTGAGAGCCCTGCTGTGGGAGAGCGAAGGGGGTCAAAGG  
AAGACTTGAAGCACAGAGGGCTAGGGAGGTGGGGTACATTTCTCTGAGCAGTCAGGGTGGGAAGAAAGAATGCAA  
GAGTGGACTGAATGTGCCTAATGGAGAAGACCCACGTGCTAGGGGATGAGGGGCTTCTGGGTCTGTTCCCTAC  
CCCATTGTGGTTCACAGCCATGAAGTCACCGGATGAACCTATCCTTCCAGTGGCTCGCTCCCTGTAGCTCTGCC  
TCCCTCTCCATATCTCCTTCCCTACACCTCCCTCCCCACACCTCCCTACTCCCCTGGGCATCTTCTGGCTTGAC  
TGGATGGAAGGAGACTTAGGAACCTACCAGTTGGCCATGATGTCTTTTCTT

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**FIGURE 4819A**

CCCTTCACGACCGTCACCATGGAAGTGTCAACATTGCAGCCTGTAAATGAAAATATGCAAGTCAACAAAATAAAG  
AAAAATGAAGATGCTAAGAAAAGACTGTCTGTTGAAAGAATCTATCAAAAAGAAAACACAATTGGAACATATTTTG  
CTCCGCCAGACACCTACATTGGTTCTGTGGAATTAGTGACCCAGCAAATGTGGGTTTACGATGAAGATGTTGGC  
ATTAATAATAGGGAAGTCACTTTTGTTCCTGGTTTGTACAAAATCTTTGATGAGATTCTAGTTAATGCTGCGGAC  
AACAAACAAAGGGACCCAAAATGTCTTGTATTAGAGTCACAATTGATCCGGAAAAACAATTTAATTAGTATATGG  
AATAATGGAAGGTATTCTGTGTTGAACACAAAGTTGAAAAGATGTATGTCCCAGCTCTCATATTTGGACAG  
CTCCTAATTCTAGTAACCTATGATGATGAAAAGAAAGTGACAGGTGGTTCGAAATGGCTATGGAGCCAAATTG  
TGTAACATATTCAGTACCAAATTTACTGTGGAAACAGCCAGTAGAGAATACAAGAAAATGTTCAAACAGACATGG  
ATGGATAATATGGGAAGAGCTGGTGAGATGGAACCTCAAGCCCTTCAATGGAGAAGATTATACATGTATCACCTTT  
CAGCCTGATTTGTCTAAGTTTAAAATGCAAAGCCTGGACAAAGATATTGTTGCACTAATGGTCAGAAGAGCATAT  
GATATTGCTGGATCCACCAAAGATGTCAAAGTCTTTCTTAATGGAAATAAACTGCCAGTAAAAGGATTTTCGTAGT  
TATGTGGACATGTATTTGAAGGACAAGTTGGATGAACTGGTAACTCCTTGAAAGTAATACATGAACAAGTAAAC  
CACAGGTGGGAAGTGTGTTAACTATGAGTGAAAAGGCTTTTCAGCAAATTAGCTTTGTCAACAGCATTGCTACA  
TCCAAGGGTGGCAGACATGTTGATTATGTAGCTGATCAGATTGTGACTAACTTGTGATGTTGTGAAGAAGAAG  
AACAAAGGGTGGTGTGTCAGTAAAAGCACATCAGGTGAAAATCACATGTGGATTTTTGTAAATGCCTTAATTGAA  
AACCAACCTTTGACTCTCAGACAAAAGAAAACATGACTTTACAACCAAGAGCTTTGGATCAACATGCCAATTG  
AGTGAAAATTTTATCAAAGCTGCCATTGGCTGTGGTATTGTAGAAAGCATACTAACTGGGTGAAGTTTAAGGCC  
CAAGTCCAGTTAAACAAGAAGTGTTCAGCTGTAAAACATAATAGAATCAAGGGAATTCCCAAACCTCGATGATGCC  
AATGATGCAGGGGGCCGAAACTCCACTGAGTGTACGCTTATCCTGACTGAGGGAGATTTCAGCCAAAACCTTTGGCT  
GTTTCAGGCCTTGGTGTGGTGGGAGAGACAAATATGGGGTTTTCCCTCTTAGAGGAAAAATACTCAATGTTCTGA  
GAAGCTTCTCATAAGCAGATCATGGAAAATGCTGAGATTAACAATATCATCAAGATTGTGGGTCTTCAGTACAAG  
AAAACTATGAAGATGAAGATTCATTGAAGACGCTTCGTTATGGGAAGATAATGATTATGACAGATCAGGACCAA  
GATGGTTCACATCAAAGGCTTGCTGATTAATTTTATCCATCACAACCTGGCCCTCTCTTCTGCGACATCGTTTT  
CTGGAGGAATTTATCACTCCCATTGTAAAGGTATCTAAAAACAAGCAAGAAATGGCATTTTACAGCCTTCCTGAA  
TTTGAAGAGTGAAGAGTTCTACTCCAAATCATAAAAAATGGAAAGTCAAATATTACAAAGGTTTGGGCACCAGC  
ACATCAAAGGAAGCTAAAGAATACTTTGCAGATATGAAAAGACATCGTATCCAGTTCAAATATTCTGGTCCTGAA  
GATGATGCTGCTATCAGCCTGGCCTTTAGCAAAAAACAGATAGATGATCGAAAGGAATGGTTAACTAATTTTCATG  
GAGGATAGAAGACAACGAAAGTTACTTGGGCTTCTGAGGATTACTTGTATGGACAACTACCACATATCTGACA  
TATAATGACTTCATCAACAAGGAACCTTATCTTGTCTCAAATCTGATAACGAGAGATCTATCCCTTCTATGGTG  
GATGGTTTGAACCAGGTGAGAGAAAGGTTTTGTTTACTTGCTTCAAACGGAATGACAAGCGAGAAGTAAAGGTT  
GCCCCAATTAGCTGGATCAGTGGCTGAAATGTCTTCTTATCATCATGGTGAGATGTCCTAATGATGACCATTATC  
AATTTGGCTCAGAAATTTGTGGGTAGCAATAATCTAAACCTCTTGACGCCCATTTGGTCAGTTTGGTACCAGGCTA  
CATGGTGGCAAGGATTCTGCTAGTCCACGATACATCTTTACAATGCTCAGCTCTTTGGCTCGATTGTTATTTCCA  
CCAAAAGATGATCACACGTTGAAGTTTTTATATGATGACAACCAGCGTGTGAGCCTGAATGGTACATTCTCTATT  
ATTCCCATGGTGCTGATAAATGGTGCTGAAGGAATCGGTACTGGGTGGTCCTGCAAAATCCCCAAGTTTGTATGTG  
CGTGAAATTTGAAATAACATCAGGCGTTTGTATGGATGGAGAAGAACCCTTTGCCAATGCTTCCAAGTTACAAGAAC  
TTCAAGGGTACTATTGAAGAAGTGGCTCCAAATCAATATGTGATTAGTGGTGAAGTAGCTATTCTTAATTCTACA  
ACCATTTGAAATCTCAGAGCTTCCCGTCAGAACATGGACCCAGACATACAAAGAACAAGTTCTAGAACCCATGTTG  
AATGGCACCGAGAAGACACCTCCTCTCATAACAGACTATAGGGAATACCATAACAGATACCACTGTGAAATTTGTT  
GTGAAGATGACTGAAGAAAACTGGCAGAGGCAGAGAGAGTTGGACTACACAAAGTCTTCAAACCTCCAACTAGT  
CTCATATGCAACTCTATGGTGCTTTTTGACCACGTAGGCTGTTTAAAGAAATATGACACGGTGTGGATATTCTA  
AGAGACTTTTTTGAACCTCAGACTTAAATATTATGGATTAAGAAAAGAAATGGCTCCTAGGAATGCTTGGTGCTGAA  
TCTGCTAAACTGAATAATCAGGCTCGCTTTATCTTAGAGAAAATAGATGGCAAAATAATCATTGAAAATAAGCCT  
AAGAAAGAATTAATTAAGTTCTGATTTCAGAGGGGATATGATTCCGATCCTGTGAAGGCCTGGAAAGAAGCCAG  
CAAAGGTTCCAGATGAAGAAGAAAAATGAAGAGAGTGACAACGAAAAGGAACTGAAAAGAGTGACTCCGTAACA  
GATTCTGGACCAACCTTCAACTATCTTCTTGATATGCCCTTTGGTATTTAACCAAGGAAAAGAAAGATGAACTC  
TGCAGGCTAAGAAATGAAAAAGAACAGAGCTGGACACATTAAGAAAGAAAGAGTCCATCAGATTTGTGGAAAGAA  
GACTTGGCTACATTTATTGAAGAATTGGAGGCTGTTGAAGCCAAGGAAAAACAAGATGAACAAGTCGGACTTCCT



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**FIGURE 4819B**

GGGAAAGGGGGAAGGCCAAGGGGAAAAAACACAAATGGCTGAAGTTTTGCCTTCTCCGCGTGGTCAAAGAGTC  
ATTCCACGAATAACCATAGAAATGAAAGCAGAGGCAGAAAAGAAAAATAAAAAGAAAATTAAGAATGAAAATACT  
GAAGGAAGCCCTCAAGAAGATGGTGTGGAAGTAGAAGGCCTAAAACAAAGATTAGAAAAGAAACAGAAAAGAGAA  
CCAGGTACAAAGACAAAGAAACAAACTACATTGGCATTTAAGCCAATCAAAAAAGGAAAGAAGAGAAATCCCTGG  
TCTGATTGAGAATCAGATAGGAGCAGTGACGAAAGTAATTTTGATGTCCCTCCACGAGAAACAGAGCCACGGAGA  
GCAGCAACAAAAACAAAATTCACAATGGATTTGGATTCAGATGAAGATTTCTCAGATTTTGATGAAAAAACTGAT  
GATGAAGATTTTGTCCCATCAGATGCTAGTCCACCTAAGACCAAACTTCCCCAAAACCTTAGTAACAAAGAACTG  
AAACCACAGAAAAGTGTCGTGTCAGACCTTGAAGCTGATGATGTTAAGGGCAGTGTACCACTGTCTTCAAGCCCT  
CCTGCTACACATTTCCAGATGAACTGAAATTACAAACCCAGTTCCTAAAAAGAATGTGACAGTGAAGAAGACA  
GCAGCAAAAAGTCAGTCTTCCACCTCCACTACCGGTGCCAAAAAAGGGCTGCCCCAAAAGGAACATAAAGGGAT  
CCAGCTTTGAATTCTGGTGTCTCTCAAAGCCTGATCCTGCCAAAACCAAGAATCGCCGCAAAGGAAGCCATCC  
ACTTCTGATGATTCTGACTCTAATTTTGAGAAAATTGTTTCGAAAGCAGTCACAAGCAAGAAATCCAAGGGGGAG  
AGTGATGACTTCCATATGGACTTTGACTCAGCTGTGGCTCCTCGGGCAAATCTGTACGGGCAAAGAAACCTATA  
AAGTACCTGGAAGAGTCAGATGAAGATGATCTGTTTTAAATGTGAGGCGATTATTTTAAGTAATTATCTTACCA  
AGCCCAAGACTGGTTTTAAAGTTACCTGAAGCTCTTAACCTCCTCCCCTCTGAATTTAGTTTGGGGAAGGTGTTT  
TTAGTACAAGACATCAAAGTGAAGTAAAGCCCAAGTGTTCTTTAGCTTT

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**FIGURE 4820**

GCCATCTGGGCCCAGGCCCATGCCCCGAGGAGGGGTGGTCTGAAGCCCCACCAGAGCCCCCTGCCAGACTGTCTG  
CCTCCCTTCTGACTGTGGCCGCTTGGC**ATG**GCCAGCAACAGCAGCTCCTGCCCGACACCTGGGGGCGGGCACCTC  
AATGGGTACCCGGTGCCCTCCCTACGCCTTCTTCTTCCCCCTATGCTGGGTGGACTCTCCCGCCAGGCGCTCTG  
ACCACTCTCCAGCACCAGCTTCCAGTTAGTGGATATAGCACACCATCCCCAGCCACCATGAGACCCAGAGCAGC  
AGTTCTGAAGAGATAGTGGCCAGCCCTCCCTCGCCACCCCTCTACCCCGCATCTACAAGCCTTGCTTTGTCTGT  
CAGGACAAGTCCTCAGGCTACCACTATGGGGTCAGCGCCTGTGAGGGCTGCAAGGGCTTCTTCCGCCGAGCATC  
CAGAAGAACATGGTGTACACGTGTACCGGGACAAGAAGTGCATCATCAACAAGGTGACCCGGAACCGCTGCCAG  
TACTGCCGACTGCAGAAGTGCTTTGAAGTGGGCATGTCCAAGGAGTCTGTGAGAAACGACCGAAACAAGAAGAAG  
AAGGAGGTGCCCAAGCCCGAGTGCTCTGAGAGCTACACGTGACGCCGGAGGTGGGGGAGCTCATTGAGAAGGTG  
CGCAAAGCGCACCAGGAAACCTTCCCTGCCCTCTGCCAGCTGGGCAAATACACTACGAACAACAGCTCAGAACAA  
CGTGTCTCTCTGGACATTGACCTCTGGGACAAGTTTCACTGAACTCTCCACCAAGTGATCATTAAAGACTGTGGAG  
TTCGCCAAGCAGCTGCCCGGCTTACCACCCTCACCATCGCCGACCAGATCACCTCCTCAAGGCTGCCTGCCTG  
GACATCCTGATCCTGCGGATCTGCACGCGGTACACGCCCAGCAGGACACCATGACCTTCTCGGACGGGCTGACC  
CTGAACCGGACCCAGATGCACAACGCTGGCTTCGGCCCCCTACCCGACCTGGTCTTTGCCCTTCGCCAACCCAGCTG  
CTGCCCCCTGGAGATGGATGATGCGGAGACGGGGCTGCTCAGCGCCATCTGCCTCATCTGCGGAGACCGCCAGGAC  
CTGGAGCAGCCGACCGGGTGACATGCTGCAGGAGCCGCTGCTGGAGGCGCTAAAGGTCTACGTGCGGAAGCGG  
AGGCCCAGCCGCCCCACATGTTCCCCAAGATGCTAATGAAGATTACTGACCTGCGAAGCATCAGCGCCAAGGGG  
GCTGAGCGGGTGATCAGCTGAAGATGGAGATCCCGGGCTCCATGCCGCTCTCATCCAGGAAATGTTGGAGAAC  
TCAGAGGGCCTGGACACTCTGAGCGGACAGCCGGGGGTGGGGGGCGGGACGGGGGTGGCCTGGCCCCCCCCGCCA  
GGCAGCTGTAGCCCCAGCCTCAGCCCCAGCTCCAACAGAAGCAGCCCGGCCACCCACTCCCCG**TGAC**CGCCACG  
CCACATGGACACAGCCCTCGCCCTCCGCCCCGGCTTTTCTCTGCCTTTCTACCGACCATGTGACCCCGCACCAGC  
CCTGCCCCACCTGCCCTCCCGGGCAGTACTGGGGACCTTCCCTGGGGGACGGGGAGGGAGGAGGCAGCGACTCC  
TTGGACAGAGGCCTGGGCCCTCAGTGGACTGCCTGCTCCCACAGCCTGGGCTGACGTCAGAGCCGAGGCCAGGA  
ACTGAGTGAGGCCCCCTGGTCTTGGGTCTCAGGATGGGTCTGGGGGCTCGTGTTTCATCAAGACACCCCTCTGCC  
CAGCTCACCATCTTTCATCACACAGCAACGCCAGGACTTGGCTCCCCATCCTCAGAACTCACAAGCCATTGCT  
CCCCAGCTGGGGAAACCTCAACCTCCCCCTGCCTCGGTTGGTGACAGAGGGGGTGGGACAGGGGCGGGGGTTCC  
CCCTGTACATACCCTGCCATACCAACCCAGGTATTAATTCTCGCTGGTTTTGTTTTTATTTTAATTTTTTTGTT  
TTGATTTTTTTAATAAGAATTTTCATTTTAAGCACATTTATACTGAAGGAATTTGTGCTGTGTATTGGGGGAGC  
TGGATCCAGAGCTGGAGGGGGTGGGTCCGGGGGAGGGAGTGGCTCGGAAGGGGCCCCACTCTCCTTTTCATGTCC  
CTGTGCCCCCAGTTCTCCTCCTCAGCCTTTTCTCCTCAGTTTTCTCTTTAAACTGTGAAGTACTAACTTTCC  
AAGGCCTGCCTTCCCCCTCCCTCCCACTGGAGAAGCCGCCAGCCCCCTTCTCCTCTGCCTGACCACTGGGTGTGG  
ACGGTGTGGGGCAGCCCTGAAAGGACAGGCTCCTGGCCTTGGCACTTGCCTGCACCCACCATGAGGCATGGAGCA  
GGGCAGAGCAAGGGCCCCGGGACAGAGTTTTCCAGACCTGGCTCCTCGGCAGAGCTGCCTCCCGTCAGGGCCCCA  
CATCATCTAGGCTCCCCAGCCCCACTGTGAAGGGGCTGGCCAGGGGCCGAGCTGCCCCACCCCCGGCCTCAG  
CCACCAGACCCCCATAGGGCCCCCAGACACCACACATGCGCGTGCACACACACAAACACACACACTGG  
ACAGTAGATGGGCCGACACACACTTGGCCCGAGTTCTCCATTTCCCTGGCCTGCCCCCACCCTGACCTGTCC  
CACCCTCGTGCCCCCTCCTTACCCCGCAGGACGGGCCTACAGGGGGTCTCCCTCACCCTGCACCCCCAGCTG  
GGGGAGCTGGCTCTGCCCCGACCTCCTTACCAGGGGTGGGGCCCCCTCCCTGGAGCCCGTGGGTGCACCTGT  
TACTGTTGGGCTTTCCACTGAGATCTACTGGATAAAGAATAAAGTTCTATTTATTCT

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**FIGURE 4821**

MASNSSSCPTPGGGHLNGYPVPPYAFFFPMLGGLSPPGALTTLQHQLPVSGYSTPSPATIENTQSSSSEEIVPSP  
PSPPLPRIYKPCFVCQDKSSGYHYGVSACEGCKGFFRSIQKNMVYTCHRDKNCIINKVTRNRCQYCRLQKCFE  
VGMSKESVRNDRNKKKKEVPKPECSESYTLTPEVGELIEKVRKAHQETFPALCQLGKYTTNNSSEQRVSLDIDLW  
DKFSELSTKCIIKTVEFAKQLPGFTTLTIADQITLLKAACLDILILRICTRYTPEQDTMTFSDGLTLNRTQMHNA  
GFGPLTDLVFANQLLPLEMDDAETGLLSAICLICGDRQDLEQPDVRDMLQEPLLEALKVYVRKRRPSRPHMFP  
KMLMKITDLRSISAKGAERVITLKMEIPGSMPLIQEMLENSEGLDTLSGQPGGGGRDGGGLAPPPGSCSPSLSP  
SSNRSSPATHSP

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**FIGURE 4822**

GCGCGGCGGGGATGGCTCGGGTGGCGTGGGGGCTGCTGTGGTTGCTGCTGGGCAGCGCCGGGGCGCAGTACGAGA  
AGTACAGCTTCCGGGGCTTCCCGCCCGAGGACCTGATGCCGCTGGCCGCGGCGTACGGGCACGCTCTGGAGCAGT  
ACGAGGGAGAGAGCTGGCGCGAGAGCGCGCGCTACCTGGAGGCGGCGCTGCGGCTGCACCGGCTCCTGCGCGACA  
GCGAGGCCTTCTGCCACGCCAACTGCAGCGGGCCCCGCGCCGCGGCCAAGCCCGATCCCGACGGCGGCGCGCAG  
ACGAGTGGGCTGCGAGCTGCGGCTCTTCGGCCGCGTCTTGAGCGAGCCGCTGCCTGCGGCGCTGCAAGCGGA  
CGCTGCCCCGCTTCCAGGTGCCCTACCCGCCGCGGCAGCTGCTGCGTGACTTCCAGAGCCGCTGCCCTACCAGT  
ACCTGCACTACGCGCTGTTCAAGGCTAACCGGCTGGAGAAGGCGGTGGCGGGGCTACACCTTCTCCAGAGGA  
ACCCGAAGCACGAGCTGACCGCCAAGTATCTCAACTACTATCAGGGGATGCTGGACGTCGCCGACGAGTCCCTCA  
CGGACCTAGAGGCCAGCCCTACGAGGCCGTGTTCCCTCCGGGCTGTGAAGCTCTACAACAGCGGGGATTTCGCA  
GCAGCACGGAGGACATGGAGCGGGCCTTGTGAGAGTACCTGGCAGTCTTTGCCCGGTGCTGGCCGGCTGTGAAG  
GGGCCCCATGAGCAGGTGGACTTCAAGGACTTCTACCCGGCCATAGCAGATCTCTTTGCAGAGTCCCTGCAGTGCA  
AGGTGGACTGTGAGGCCAATTTGACCCCCAATGTGGGTGGCTACTTCTGAGACAAGTTCGTGGCCACCATGTACC  
ACTACCTGCAGTTTGCTACTATAAGTTGAATGATGTGCGCCAGGCTGCCCGCAGCGCCGCCAGCTACATGCTCT  
TCGACCCCAAGGACAGCGTCATGCAGCAGAACCCTGGTGTATTACCGGTTCCACCGGGCTCGCTGGGGCCTGGAAG  
AGGAGGACTTCCAGCCCCGGGAGGAGGCCATGCTCTACCACAACCAGACCGCCGAGCTGCGGGAGCTGCTGGAGT  
TCACCACATGTACCTGCAGTCAGATGATGAGATGGAGCTGGAGGAGACAGAACCGCCCTGGAGCCTGAGGATG  
CCCTATCTGACGCCGAGTTTGAGGGGGAGGGTGACTACGAGGAGGGCATGTATGCTGACTGGTGGCAGGAGCCGG  
ATGCCAAGGGTGACGAGGCCGAGGCTGAGCCAGAGCCTGAACTCGCATGAGAAGGGGACACCCACACCGCTCAA  
GCTTGGGAAGCCTGGTGCCGATGGCCCCACCCTCACCAGCCTGGGCAGCAGCAAGAAGTATTTATTAATAAATTA  
AGATGGGCCAGGTGCGGTGGCTCACACCTGTAATCCCAGCATTGTTGGGAGGCCAAGGTGGGTGGATCACTTGAGG  
CCAGGAGTTCAAGACCAGCCTGGCCAACATGATGAGACCTCCGTCTCTACTAAAATACATAAATTAGCCGGGTGT  
GGTGGCAGGCGCCTGAAATCCCAGCTACTCAAGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGGCAAAGGT  
TGCGGTGAACTGAGATTGCGCCACCGCACTCCAGCCTGGGCGACAGAGCGAGACTCCATCTTTAAAAAAAACAA  
GACGGGCCCGGCACGGTGGCTCACGCCTGTAATCCCAGCACTGAGAGGCCGATCACTTGAGGTGAGGAGTTCAAGA  
CCTGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAAATACAAAAATTAGCCAGGCATGGTGGCACACACC  
TGTAATCGTAGCTGAGGCAGGAGAATCGCCTGAACCCAGGAGGCGGAGCTTGAGTGAGCCGAGATCGTGCCACT  
GCACTCCAGCCTGGGCGACAGAGTGAGACTCCATCTCAAAAAAAAAAAAAAAAAAACTTAAGATGGACACAGCTGA  
CTGGACCCCCATCCTGCCTCACCCATGGGTGCTGCACCCAGACCCATCCTGCCACTTCTATGTCTCTGGACCAC  
AGGATGGTGGTGGCATTGCAGGTTGGCAAGTGGGCTGATGGGGTCCGCCCTCCTCACTGCTGAGCTCCTCACCTG  
GACAGTCTCCTGGACAAGGAGTTTCCAGCTGCTGGCTGGAGTCTCAGGCCAAATTGCAGAGGGTCTCCAGGGTC  
CTGAAGAGCACTGGACTAAGAGTCTAGTGGTTCCAGGGCCCTGACCAGTAGGTGCTCAATAAATGTTTGTGTTG  
AATGAAAAAAAAAAAAAAAAA

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**FIGURE 4823**

MARVAWGLLWLLLGSAGAQYEKYSFRGFPPEDLMPLAAAYGHALEQYEGESWRESARYLEAALRLHRLLRDSEAF  
CHANCSPAPAAKPDGGRADWACELRLFGRLVLERAACLRRCKRTLPAFQVPYPPRQLLRDFQSRLPYQYLHY  
ALFKANRLEKAVAAAYTFLQRNPKHELTAKYLNYYQGMLDVADESLTDLEAQPYEAVFLRAVKLYNSGDFRSSTE  
DMERALSEYLAVFARCLAGCEGAHEQVDFKDFYPAIADLFAESLQCKVDCEANLTPNVGGYFVDKFVATMYHYLO  
FAYYKLNDRQAARSAASYMLFDPKDSVMQQNLVYYRFHRARWGLEEEDFQFREEAMLYHNQTAELELLEFTHM  
YLQSDDEMELEETEPPLEPEDALSDAEFEGEGDYEEGMYADWWQEPDAKGDEAEAEPEPELA

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**FIGURE 4824**

TCTTTCGCGGGCACTTCGAATTCTAGTCCCCTCCAGGCAGGAGCCCCGGGCGGACGGAGAGGACTTAACGACACTA  
TCGGACCCCTCTGGGAAAAGAGGGGAGACGTCGTGACCCAGGCCCCGCCCCACCTTGCCGCCTCGTGCCCCGGCGCT  
AAGACCCAGCGGGCGCGCCGCCCGGGGCCCCGGCCCTGTCCCCTTCCGTCCGCGGGGCAGCCAGCTCAGCTC  
CGGAGAGCCGGCGGGCGCGCGGGCATGGCTCGGGTGGCGTGGGGGCTGCTGTGGTTGCTGCTGGGCAGCGCCGGG  
GCGCAGTACGAGAAGTACAGCTTCCGGGGCTTCCGCCCCGAGGACCTGATGCCGCTGGCCGCGGCGTACGGGCAC  
GCTCTGGAGCAGTACGAGGGAGAGAGCTGGCGCGAGAGCGCGGCTACCTGGAGGCGGCGCTGCGGCTGCACCGG  
CTCCTGCGCGACAGCGAGGCCTTCTGCCACGCCAACTGCAGCGGCCCCG

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**FIGURE 4825**

AGCTATGATCGCAACACCTTGGTGGCCATCGTGGTGGGTGTGGGGCGCCTCATCACTGGCATGGACCGAGGCCTC  
ATGGGCATGTGTGTCAACGAGCGGCGACGCCTCATTGTGCCTCCCCACCTGGGCTATGGGAGCATCGGCCTGGCG  
GGGCTCATTCCACCGGATGCCACCCCTCTACTTCGATGTGGTTCTGCTGGATGTGTGGAACAAGGAAGACACCGTG  
CAGGTGAGCACATTGCTGCGCCCGCCCCACTGCCCCCGCATGGTCCAGGACGGCGACTTGTCCGCTACCACTAC  
AATGGCACCCCTGCTGGACGGCACCTCCTTCGACACCAGCTACAGTAAGGGCGGCACTTATGACACCTACGTCGGC  
TCTGGTTGGCTGATCAAGGGCATGGACCAGGGGCTGCTGGGCATGTGTCTCTGGAGAGAGAAGGAAGATTATCATC  
CCTCCATTCTGGCCTATGGCGAGAAAGGCTATGGGACAGTGATCCCCCACAGGCCTCGCTGGTCTTTTCACGTC  
CTCCTGATTGACGTGCACAACCCGAAGGACGCTGTCCAGCTAGAGACGCTGGAGCTCCCCCGGCTGTGTCCGC  
AGAGCCGGGGCCGGGGACTTCATGCGCTACCACTACAATGGCTCCTTGATGGACGGCACCCCTCTTCGATTCCAGC  
TACTCCCGCAACCACACCTACAATACCTATATCGGGCAGGGTTACATCATCCCCGGGATGGACCAGGGGCTGCAG  
GGTGCCTGCATGGGGGAACGCCGAGAATTACCATCCCCCGCACCTCGCCTATGGGGAGAATGGAACCTGGAGAC  
AAGATCCCTGGCTCTGCCGTGCTAATCTTCAACGTCCATGTCACTTCCACAACCCCTGCGGATGTGGTGGAA  
ATCAGGACACTGTCCCCGCCATCTGAGACCTGCAATGAGACCACCAAGCTTGGGGACTTTGTTTCGATACCATTAC  
AACTGTTCTTTGCTGGACGGCACCCAGCTGTTTACCTCGCATGACTACGGGGCCCCCAGGAGGCGACTCTCGGG  
GCCAACAAGGTGATCGAAGGCCTGGACACGGGCTGCAGGGCATGTGTGTGGGAGAGAGGCGGCAGCTCATCGTG  
CCCCCGCACCTGGCCACGGGGAGAGTGGAGCCCGGGGAGTCCAGGCAGTGCTGTGTCTGTGTTGAGGTGGAG  
CTGGTGTCCCGGGAGGATGGGCTGCCACAGGCTACCTGTTTGTGTGGCACAAGGACCCTCCTGCCAACCTGTTT  
GAAGACATGGACCTCAACAAGGATGGCGAGGTCCCTCCGGAGGAGTTCTCCACCTTCATCAAGGCTCAAGTGAGT  
GAGGGCAAAGGACGCCTCATGCCTGGGCGAGGACCCTGAGAAAACCATAGGAGACATGTTCCAGAACCAGGACCGC  
AACCAGGACGGCAAGATCACAGTCGACGAGCTCAAGCTGAAGTCAGATGAGGACGAGGAGCGGGTCCACGAGGAG  
CTCTGAGGGGCAGGGAGCCTGGCCAGGCTGAGACACAGAGGCCCACTGCGAGGGGGACAGTGGCGGTGGGACTG  
ACCTGCTGACAGTCACCCCTCCCTCTGCTGGGATGAGGTCCAGGAGCCAACTAAAACAATGGCAGAGGAGACATCT  
CTGGTGTTCACCACCCTAGATGAAAATCCACAGCACAGACCTCTACCGTGTCTCTCTCCATCCCTAAACCAC  
TTCCTTAAAATGTTTGGATTTGCAAAGCCAATTTGGGGCCTGTGGAGCCTGGGGTTGGATAGGGCCATGGCTGGT  
CCCCACCATACTCCCTCCACATCACTGACACAGCTGAGCTTGTTATCCATCTCCCCAACTTTCTCTTTCTT  
TGTACTTCTTGTATCCCCACTCCCAGCCCCCTTTCTCTATGTGACAGCTCCCTAGGACCCCTCTGCCTTCCTC  
CCCAATCCTGACTGGCTCCTAGGGAAGGGGAAGGCTCCTGGAGGGCAGCCCTACCTCTCCCATGCCCTTTGCCCT  
CTCCCTCGCCTCCAGTGGAGGCTGAGCTGACCCTGGGCTGCTGGAGGCCAGACTGGGCTGTAGTTAGCTTTTCA  
TCCCTAAAGAAGGCTCCTTTCCCTAAGGAACCATAGAAGAGAGGAAGAAAACAAAGGGCATGTGTGAGGGAAGCT  
GCTTGGGTGGGTGTTAGGGCTATGAAATCTTGGATTGAGGGCTGAGGGGTGGGAGGGAGGGCAGAGCTCTGCACA  
CTCAAAGGCTAAACTGGTGTGAGTCCTTTTTCTCTTGTTCCAAATAAAAGATTAAACC

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**FIGURE 4826**

GGGATGGCAGAGGAGGTGAGGAGGGAGGAAGCGTCCGGAGTGGGGCGGGCCCGGACTCCGACCCCGGGGCGCTT  
CGAGCCCCCAGCTGGTCACCGAGGCACCGCCGCTTCACCCAGGCCAGTAGCCGCCCCCTCGCGCACCCCGGGCCC  
CGCCTCACACGCGCGCCCGAGCGAGCCCCGGGCTCCCTCGGGCCCAGCGTGGCGCAGGGGTCACTGGTTCTCTC  
GGGTCTCGGGACAGGTGAGCACCTGATGAAGGCCACGGTCCTGATGCGGCAGCCTGGGCGGGTGCAGGAGATCG  
TGGGCGCCCTCCGCAAGGGCGGCGGAGACCGGTTACAGGTGATTTCTGATTTTGACATGACCTTGAGCAGGTTTG  
CATATAATGGAAGCGATGCCCTTCTTCTTACAATATTCTGGATAATAGCAAGATCATCAGTGAGGAGTGTCCGA  
AAGAGCTCACAGCGCTCCTTCACCACTATTACCCAATTGAGATCGACCCACACCGGACCGTCAAGGAGAAGCTAC  
CTCATATGGTGGAATGGTGGACCAAAGCACACAATCTCCTATGTCAGCAGAAGATTCAGAAGTTTCAGATAGCCC  
AGGTGGTTAGAGAGTCCAATGCAATGCTCAGGGAGGGATATAAGACCTTCTTCAACACACTCTACCATAACAACA  
TTCCCTTTTTCATCTTTTCTGCGGGCATTGGTGATATCCTGGAAGAAATTATCCGACAGATGAAAGTGTTCACC  
CCAACATCCACATCGTGTCTAACTACATGGATTTAATGAAGATGGTTTTCTCCAGGGATTTAAGGGCCAGCTCA  
TACACACATAACAAGAACAGCTCTGCGTGTGAGAACTCTGGTTACTTCCAGCAACTTGAGGGCAAAACCAATG  
TCATCCTGCTGGGAGACTCTATCGGGGACCTCACCATGGCCGATGGGGTTCTGGTGTGCAGAACATTCTCAAAA  
TTGGCTTCTGAATGACAAGGTGGAGGAGCGGGCGGGAGCGCTACATGGACTCCTATGACATCGTGTGGAGAAGG  
ACGAGACTCTGGATGTGGTCAACGGGCTACTGCAGCACATCCTGTGCCAGGGGTCCAGCTGGAGATGCAAGGCC  
CCTGAAGGCGCAGGCTCCAGCCCCGGCTGCAGGCCGTGGTGGAGGGGGCGCCTCCCCAGAGTCTGCTCCCCCGT  
GAACACAGAGCAGAGGCCAGGGTGGCCAGCAGTGGCTGGGTCTTCCGCGCCCTCCGTCTCTTTCCCTGAGC  
ACCTTCATCACCAGAGGCTTGAAGGAACCCCGCCATGTGGCAGGGCACAGGCACTGTTCTGGTGAACCTTGGAC  
CACAGCATGTCAGTGCTCTAGGGATTGTCTACTCCAGGGATTTTCTTCAAATTTTTTAAACATGGGAAGTTCAA  
CAAATATAATGTGTGAAACAG



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**FIGURE 4827A**

CCGGATTTTTCGGGGTTTCGTCGGGCCCTGTGGAAGAAGCGCCGCGCACGGACTTCGGCAGAGGTAGAGCAGGTCTC  
TCTGCAGCCATGTTCGGCCAAGGCAATTTTCAGAGCAGACGGGCAAAGAACTCCTTTACAAGTTCATCTGTACCACC  
TCAGCCATCCAGAATCGGTTCAAGTATGCTCGGGTCACTCCTGACACAGACTGGGCCCCGCTTGCTGCAGGACCAC  
CCCTGGCTGCTCAGCCAGAACTTGGTAGTCAAGCCAGACCAGCTGATCAAACGTCGTGGAAAACTTGGTCTCGTT  
GGGGTCAACCTCACTCTGGATGGGGTCAAGTCTGGCTGAAGCCACGGCTGGGACAGGAAGCCACAGTTGGCAAG  
GCCACAGGCTTCCTCAAGAACTTTCTGATCGAGCCCTTCGTCCCCACAGTCAGGCTGAGGAGTTCTATGTCTGC  
ATCTATGCCACCCGAGAAGGGGACTACGTCTGTTCACCACGAGGGGGGTGTTGGACGTGGGTGATGTGGACGCC  
AAGGCCCAGAAGCTGCTTGTGGCGTGGATGAGAACTGAATCCTGAGGACATCAAAAAACACCTGTTGGTCCAC  
GCCCCGTAAGACAAGAAAGAAATTTCTGGCCAGTTTTATCTCCGGCCTCTTCAATTTCTACGAGGACTTGTACTTC  
ACCTACCTCGAGATCAATCCCCTTGTAGTGACCAAGATGGAGTCTATGTCTTGACTTGGCGGCCAAGGTGGAC  
GCCACTGCCGACTACATCTGCAAAGTGAAGTGGGGTGACATCGAGTTCCCTCCCCCCTTCGGGCGGGAGGCATAT  
CCAGAGGAAGCCTACATTGCAGACCTCGATGCCAAAAGTGGGGCAAGCCTGAAGCTGACCTTGCTGAACCCCAA  
GGGAGGATCTGGACCATGGTGGCCGGGGGTGGCGCCTCTGTCTGTACAGCGATAACCATCTGTGATCTAGGGGGT  
GTCAACGAGCTGGCAAACATATGGGGAGTACTCAGGCGCCCCCAGCGAGCAGCAGACCTATGACTATGCCAAGACT  
ATCCTCTCCCTCATGACCCGAGAGAAGCACCCAGATGGCAAGATCCTCATCATTGGAGGCAGCATCGCAAACCTC  
ACCAACGTGGCTGCCACGTTCAAGGGCATCGTGAGAGCAATTCGAGATTACCAGGGCCCCCTGAAGGAGCACGAA  
GTCACAATCTTTGTCCGAAGAGGTGGCCCCAACTATCAGGAGGGCTTACGGGTGATGGGAGAAGTCGGGAAGACC  
ACTGGGATCCCCATCCATGTCTTTGGCACAGAGACTCACATGACGGCCATTGTGGGCATGGCCCTGGGCCACCGG  
CCCATCCCCAACCCAGCCACCCACAGCGGGCCACACTGCAAACCTCCTCCTCAACGCCAGCGGGAGCACATCGACG  
CCAGCCCCCAGCAGGACAGCATCTTTTTCTGAGTCCAGGGCCGATGAGGTGGCGCCTGCAAAGAAGGCCAAGCCT  
GCCATGCCACAAGATTAGTCCCAAGTCCAAGATCCCTGCAAGGAAAGAGCACCACCTCTTCAGCCGCCACACC  
AAGGCCATTGTGTGGGGCATGCAGACCCGGGCCGTGCAAGGCATGCTGGACTTTGACTATGTCTGCTCCCGAGAC  
GAGCCCTCAGTGGCTGCCATGGTCTACCCTTTCACTGGGGACCACAAGCAGAAGTTTTACTGGGGGCACAAAGAG  
ATCCTGATCCCTGTCTTCAAGAACATGGCTGATGCCATGAGGAAGCATCCGGAGGTAGATGTGCTCATCAACTTT  
GCCTCTCTCCGCTCTGCCTATGACAGCACCATGGAGACCATGAACTATGCCCAGATCCGGACCATCGCCATCATA  
GCTGAAGGCATCCCTGAGGCCCTCACGAGAAAGCTGATCAAGAAGGCGGACCAGAAGGGAGTGACCATCATCGGA  
CCTGCCACTGTTGGAGGCATCAAGCCTGGGTGCTTTAAGATTGGCAACACAGGTGGGATGCTGGACAACATCCTG  
GCCTCCAAACTGTACCGCCAGGCAGCGTGGCCTATGTCTCACGTTCCGGAGGCATGTCCAACGAGCTCAACAAT  
ATCATCTCTCGGACCACGGATGGCGTCTATGAGGGCGTGGCCATTGGTGGGGACAGGTACCCGGGCTCCACATTC  
ATGGATCATGTGTTACGCTATCAGGACACTCCAGGAGTCAAATGATTGTGGTTCTTGGAGAGATTGGGGGCACT  
GAGGAATATAAGATTTGCCGGGGCATCAAGGAGGGCCGCTCACTAAGCCCATCGTCTGCTGGTGCATCGGGACG  
TGTGCCACCATGTTCTCCTCTGAGGTCCAGTTTGGCCATGCTGGAGCTTGTGCCAACCCAGGCTTCTGAACTGCA  
GTAGCCAAGAACCAGGCTTTGAAGGAAGCAGGAGTGTGTTGTGCCCGGAGCTTTGATGAGCTTGAGAGATCATC  
CAGTCTGTATACGAAGATCTCGTGGCCAATGGAGTCATTGTACCTGCCAGGAGGTGCCGCCCCAACCGTGCCC  
ATGGACTACTCCTGGGCCAGGGAGCTTGGTTTGTATCCGCAAACCTGCCTCGTTTCATGACCAGCATCTGCGATGAG  
CGAGGACAGGAGCTCATCTACGCGGGCATGCCCATCACTGAGGTCTTCAAGGAAGAGATGGGCATTGGCGGGGTC  
CTCGGCCTCCTCTGGTTCCAGAAAAGGTTGCCTAAGTACTCTTGCCAGTTCATTGAGATGTGTCTGATGGTGACA  
GCTGATCACGGGCCAGCCGTCTCTGGAGCCCAACACCATCATTTGTGCGGAGCTGGGAAAGACCTGGTCTCC  
AGCCTCACCTCGGGGCTGCTCACCATCGGGGATCGGTTTGGGGGTGCCTTGGATGCAGCAGCCAAGATGTTTCAGT  
AAAGCCTTTGACAGTGGCATTATCCCCATGGAGTTTGTGAACAAGATGAAGAAGGAAGGGAAGCTGATCATGGGC  
ATTGGTCACCGAGTGAAGTCGATAAACAACCCAGACATGCGAGTGCAGATCCTCAAAGATTACGTCAGGCAGCAC  
TTCCCTGCCACTCCTCTGCTCGATTATGCACCTGGAAGTAGAGAAGATTACCACCTCGAAGAAGCCAAATCTTATC  
CTGAATGTAGATGGTCTCATCGGAGTCGCATTTGTAGACATGCTTAGAACTGTGGGTCTTTACTCGGGAGGAA  
GCTGATGAATATATTGACATTGGAGCCCTCAATGGCATCTTTGTGCTGGGAAGGAGTATGGGGTTTATTGGACAC  
TATCTTGATCAGAAGAGGCTGAAGCAGGGGCTGTATCGTCATCCGTGGGATGATATTTTCATATGTTCTTCCGGAA  
CACATGAGCATGTAACAGAGCCAGGAACCTACTGCAGTAACTGAAGACAAGATCTCTTCCCCCAAGAAAAAGT  
GTACAGACAGCTGGCAGTGGAGCCTGCTTTATTTAGCAGGGGCTGGAATGTAAACAGCCACTGGGGTACAGGCA  
CCGAAGACCAACATCCACAGGCTAACACCCCTTCAGTCCACACAAAGAAGCTTCATATTTTTTTTATAAGCATAG

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**FIGURE 4827B**

AAATAAAAACCAAGCCAATATTTGTGACTTTGCTCTGCTACCTGCTGTATTTATTATATGGAAGCATCTAAGTAC  
IGTCAGGATGGGGTCTTCCTCATTGTAGGGCGTTAGGATGTTGCTTTCTTTTCCATTAGTTAAACATTTTTTTC  
TCCTTTGGAGGAAGGGAATGAAACATTTATGGCCTCAAGATACTATAACATTTAAAGCACCCCAATGTCTCTCTTT  
TTTTTTTTTACTTCCCTTTCTTCTTCCTTATATAACATGAAGAACATTGTATTAATCTGATTTTTAAAGATCTT  
TTTGTATGTTACGTGTTAAGGGCTTGTTGGTATCCCACTGAAATGTTCTGTGTTGCAGACCAGAGTCTGTTTAT  
GTCAGGGGGATGGGGCCATTGCATCCTTAGCCATTGTCACAAAATATGTGGAGTAGTAACTTAATATGTAAAGTT  
GTAACATACATACATTTAAAATGGAAATGCAGAAAGCTGTGAAATGTCTTGTGTCTTATGTTCTCTGTATTTATG  
CAGCTGATTTGTCTGTCTGTAAGTGAAGTGTGGGTCCAAGGACTCCTAACTACTTTGCATCTGTAATCCACAAAG  
ATTCTGGGCAGCTGCCACCTCAGTCTCTTCTCTGTATTATCATAGTCTGGTTTAAATAAACTATATAGTAACA

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**FIGURE 4828**

MSAKAISEQTGKELLYKFICTTSAIQNRFKYARVTPD TDWARLLQDHPWLLSQNLVVKPDQLIKRRGKLG LVGVN  
LTLDGVKSWLKPRLGQEATVGKATGFLKNFLIEPFVPHSQAEFFYVCIYATREGDYVLFHHEGGVDVGDVDAKAQ  
KLLVGVDEKLN PEDIKKHLLVHAPEDKKEILASFISGLNFYEDLYFTYLEINPLVVT KDGVYVLDLAAKV DATA  
DYICKVKWGDIEFPPPF GREAYPEEAYIADLDAKSGASLKL TLLNPKGRIWTMVAGGGASVVYSDTICDLGGVNE  
LANYGEYSGAPSEQQTYDYAKTILSLMTREKHPDGKIL IIGGSIANFTNVAATFKGIVRAIRDYQG PLKEHEVTI  
FVRRGGPNYQEGLRVMGEVGKTTGIP IHVFGTETHMTAIVGMALGHRP IPNQPTAAHTANFLN ASGSTSTPAP  
SRTASFSESRAD E VAPAKKAKPAMPQDSVSPRSLOGKSTTLFSRHTKAI VWGMQTRAVQGM LDFDYVCSRDEPS  
VAAMVYPFTGDHKQKFY WGHKEILIPVFKNMADAMRKHPEVDVLINFASLRSAYDSTMETMNYAQIR TIAIIAEG  
IPEALTRKLIK KADQKGVTIIGPATVGGIKPGCFKIGNTGGMLDNILASKLYRPGSVAYVSRSGGMSNELNNIIS  
RTTDGVYEGVAIGGDRYPGSTFMDHVLRYQDTPGVKMIVVLGEIGGTEEYKICRGIKEGRLSTPVVCW CIGTCAT  
MFSSEVQFGHAGACANQASETAVAKNQALKEAGVFVPRSFDELGEIIQSVYEDLVANGVIVPAQEVPPPTV PMDY  
SWARELGLIRKPASFMTSICDERGQELIYAGMPITEVFKEEMGIGGV LGLLWFQKRLPKYSCQFIEMCLMVTADH  
GPAVSGAHNTIICARAGKDLVSSLTSGLLTIGDRFXGCLGCSSQDVQ

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**FIGURE 4829**

GGCTGAGGGGAGGGCCGTTGGCCGGGGCCTGCGGTACGCCGCTTCAGTGAGGGACGCCACTGCGGCCACCCGGCT  
TGCTGCCTTCCTGGGCGCCACTCCCCAGGCGACCCGACGCGACGCGCCAGCAGCGCAGCACCATTCTCTCGG  
GCTCTTGGGCGCTGCTCTGAGCAGCGTCACCCTTTACACCAGAAAGCTGGCGGGCACTATGGGGAAAAACAAAA  
CAAGAAGAAAGTGGAGGAGGTGCTAGAAGAGGAGGAAGAGGAATATGTGGTGGAAAAAGTTCTCGACCGTCGAGT  
GGTAAAGGGCAAAGTGGAGTACCTCCTAAAGTGAAGGGATTCTCAGATGAGGACAACACATGGGAGCCAGAAGA  
GAACCTGGATTGCCCCGACCTCATTGCTGAGTTTCTGCAGTCACAGAAAACAGCACATGAGACAGATAAATCAGA  
GGGAGGCAAGCGCAAAGCTGATTCTGATTCTGAAGATAAGGGAGAGGAGAGCAAACCAAAGAAGAAGAAGA  
GTCAGAAAAGCCACGAGGCTTTGCTCGAGGTTTGGAGCCGGAGCGGATTATTGGAGCTACAGACTCCAGTGGAGA  
GCTCATGTTCTGATGAAATGGAAAACTCTGATGAGGCTGACCTGGTCCCTGCCAAGGAAGCCAATGTCAAGTG  
CCCACAGGTTGTCATATCCTTCTATGAGGAAAGGCTGACGTGGCATTCTACCCCTCGGAGGATGATGACAAAAA  
AGATGACAAGAACTAACGCTCCTGAGTACCAGCCCCTGTCACATCTGACTGTGGGTTTCAAGTGGGAAGGGAAGG  
AGTTCTACTTGTCTTGACACCATAGAGGTGGCTTGAGAAGATGTCCTTTGAAGAGCCAGTATAGTTTCTGTGCC  
TGCAGCAGCCCCAAGTGCTTTAAAGCCGTTTCAAGCTGTATAGTTTGCACACCCATCCCAGTGGAGGGGAAAGGGG  
ATAAGTGTTTCAAGGCAACCTTTTCTGCACTTTGCTGCGAAAAGCAAAGGGCCTTCTATGAAGGACAAAACCTTGC  
AGAATTGGGTGTGTGGGAGAGCAAAAAATACTGTAGATCTTCAAAGAGCATCTCCACAACCCACAGCCTTCTTC  
CCAATAGTGTTAACTCTGCATTTTACAGCGTAGCATGTGTGTAGTTTTTGGCTATTACTGGTGTATTATTTGGG  
GGAGGGAGGGATGGGGAGGGGAGAAAGGGAGATGGGTAGCATCATTTTGATTAAACATTTGGGGCCTGTATAGGGGA  
AATGGTGAAGCAATGGAAAAGAACAGACAATAATGATTGCTTCTATGTCCAGAATATTTTACCTTTAAAAAAA  
TGTCATTGGCACCATAAATAAGGACTGTGAGAGACTGTTTAAAGCTGTGAAAGTCTGAAACCTATAAGCCAAGG  
TGTTCCCTGCCTAAACTTATTGCTGTTCCCAAAAGGACTAAGCCTGTTTATAAGTTACCAAAGTTGCCATTTTG  
GAGATGAAATTGACGAGGAGGGAAGGTCTTTTATTGGAGAGTATACAGTACAAGCAGATCATTCTGCCTTAGAG  
GTGCTAATTCCCGAAATTAGAAGACCTTTCTTTTCCAGTAACGAAGTTATAAATATCAGCTTGTTTCATCCAAGC  
CACTGGCTGAGGTGTTAGGAAGAGGAAGAGGGTGGTAGAGGAGGTAAGACAGTAGGGAAAGACAAGGGCCCATGC  
TCTTAGTGGGGAAAACCTCTTGGAGCCGTTTACTTTGAGCTTTGAACACTGAAACCATTGTTGGCAGGGTTCAGTC  
ACTGACAGCACAAAGTTTCACTGAATTGATCCAAGAGTTTAGTGATTTCAAAGCCTTGGTCTCAGGAGAAGATTA  
AACTTTTCATATTGGGCAGTGGTTCACTTTAAACACACACATACACACACAAAACAATTTTTTAAGAAATCCTAA  
TAAGTAACATACCCAAAATGCTCTGTCTTGAGTCATGAGAACCATCAGTTCTTGATATTGTCTAGACTTGCATCT  
AGAGCTACGTTGTAAATTTCTTTTAGGCATGTGTTAGATTTCTGTGTAAACTTTGTTTAAATGTAACTTCATAC  
TACATTGTCAGTTTTTGTCTTAATAAACTATAGATTTAT

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**FIGURE 4830**

CTGAAGCGGAAGTGGAGGAAAGATGGAGGACCATCAGCACGTGCCCATCGACATCCAGACCAGCAAGCTGCTCGA  
TTGGCTGGTGGACAGAAGGCACTGCAGCCTGAAATGGCAGAGTCTGGTGCTGACGATCCGCGAGAAGATCAATGC  
TGCCATCCAGGACATGCCAGAGAGCGAAGAGATCGCCAGCTGCTGTCTGGGTCTTACATTACTACTTTTCACTG  
CCTAAGAATCCTGGACCTTCTCAAAGGCACAGAGGCCCTCCACGAAGAATATTTTTGGCCGATACTCTTCACAGCG  
GATGAAGGATTGGCAGGAGATTATAGCTCTGTATGAGAAGGACAACACCTACTTAGGTAAAGTGGCCCCGGCCTGG  
GAGCCCTGGTATCCATGGGGAAGCCCACTCTCAGAGTTCTGAGATACCAGGCTTATAGGAGGCACAGTCTGTGAG  
TGGGAAGAGACTGGAGTGTAGATGTTGCCATTGTAGGTGGTAAAATCAATTGTTTTTGATGGAATTGATTTTC  
CCTGAGTGGAGTGTCTGGGGGAAGGAGGAGTCCAGGCCGGTAGTGGCCATTGCGCGTGCCTCAGCGAGCAGGTGT  
GTGTGGGTCTCTCCACCACTCACCTCTTGTTAGCGGGAGTGTGCTGCCCCACCCCCACCCCCGACCCCCATTCT  
TACACAAGGCAGAAGAGGCACGGGTTTTCTGGGAGCGAATATCAAGTGCCTGAGAGCAACTACAGGACTAAGTGT  
TGTTTTGGGTTGGGTGTAGTATAAATAATAATAGGCTAATATTTCTGAGCATCTACTAAATGCAAGGAATTGT  
GCTTGGTGTGTATGTGGATTCTCTCTTGCATCTTCATGATAAATGTTATTGTGCTGTTTTTACCGATGAGGGTT  
GGATTAGAGGGGTTAAACAACCTTGTCTTAGGCTCCACAGCTGGGAACAAGTGGGGCTGGGAAGCTGACTTCGTGC  
TCTTACCACCACAAAGGATGTGTGTGCATCCTGGGGCATGCCTGCCTCATGTGGGGGTGTCTGGGCTGAATTT  
CCTGGGCACTTCTCAGTGGAACTCTCTAGCCTCCTGGTTCGGAATGTCAACTATGAGATCCCCTCACTGAAGAAG  
CAGATTGCCAAGTGCCAGCAGCTGCAGCAAGAATACAGCCGCAAGGAGGAGGAGTGCAGGCAGGGGCTGCCGAG  
ATGCGGGAGCAGTTCTACCACTCCTGCAAGCAGTATGGCATCACGGGCGAAAATGTCCGAGGAGAAGTGTGGCC  
CTGGTGAAGGACCTGCCGAGTCAGCTGGCTGAGATTGGGGCAGCGGCTCAGCAGTCCCTGGGGGAAGCCATTGAC  
GTGTACCAGGCGTCTGTGGGGTTTGTGTGTGAGAGCCCCACAGAGCAGGTGTTGCCAATGCTGCGGTTCTGTGAC  
AAGCGGGGAACTCAACGGTGTACGAGTGGAGGACAGGGACAGAGCCCTCTGTGGTGGAAACGACCCACCTCGAG  
GAGCTTCTGAGCAGGTGGCAGAAGATGCGATTGACTGGGGCGACTTTGGGGTAGAGGCAGTGTCTGAGGGGACT  
GACTCTGGCATCTCTGCCGAGGCTGCTGGAATCGACTGGGGCATCTTCCCGGAATCAGATTCAAAGGATCCTGGA  
GGTGATGGGATAGACTGGGGAGACGATGCTGTTGCTTTGCAGATCACAGTGTGGAAGCAGGAACCCAGGCTCCA  
GAAGGTGTTGCCAGGGGCCCAGATGCCCTGACACTGCTTGAATACACTGAGACCCGGAATCAGTTCTTGTATGAG  
CTCATGGAGCTTGAGATCTTCTTAGCCCAGAGAGCAGTGGAGTTGAGTGAGGAGGCAGATGTCCTGTCTGTGAGC  
CAGTTCCAGCTGGCTCCAGCCATCCTGCAGGGCCAGACCAAAGAGAAGATGGTTACCATGGTGTGAGTGTGGAG  
GATCTGATTGGCAAGCTTACCAGTCTTCAGCTGCAACACCTGTTTATGATCCTGGCCTACCAAGGTATGTGGAC  
CGAGTGACTGAATTCCTCCAGCAAAAGCTGAAGCAGTCCAGCTGCTGGCTTTGAAGAAAGAGCTGATGGTGCAG  
AAGCAGCAGGAGGCACCTGAGGAGCAGGCGGCTCTGGAGCCTAAGCTGGACCTGCTACTGGAGAAGACCAAGGAG  
CTGCAGAAGCTGATTGAAGCTGACATCTCCAAGAGGTACAGCGGGCGCCCTGTGAACCTGATGGGAACCTCTCTG  
**TGA**CACCTCCGTGTTCTTGCCCTGCCATCTTCTCCGCTTTTGGGATGAAGATGATAGCCAGGGCTGTTGTTTTG  
GGCCCTTTCAAGGCAAAAGACCAGGCTGACTGGAAGATGGAAAGCCACAGGAAGGAAGCGGCACCTGATGGTGAT  
CTTGGCACTCTCCATGTTCTCTACAAGAAGCTGTGGTGAATTGGCCCTGTGGTCTACCAGGCGAAAACACAGATT  
CTCCTTCTAGTTAGTATAGCGACTTAATAAAAGAGGAAAAACAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4831**

MCVHPGACLP HVGVSWAEFPGHFSVELSSLLVRNVN YEIPSLKKQIAKCOQLQQEYSRKEEECQAGAAEMREQFY  
HSCKQYGITGENVRGELLALVKDLPSQLAEIGAAAQQSLGEAIDVYQASVGFVCESPT EQVLPMLRFVQKRGNST  
VYEWRTGTEPSVVERPHLEELPEQVAEDAIDWGDFGVEAVSEGTD SGISAEAAGIDWGIFPESDSKDPGGDGIDW  
GDDAVALQITVLEAGTQAPEGVARGPDALT LLEYTETRNOFLDELMELEIFLAQRAVELSEEADVLSVSQFQLAP  
AILQGQTKEKMVTMVS VLEDLIGKLTSLQLQHLMILASPRYVDRVTEFLQQKLKQS QLLALKKELMVQKQOEAL  
EEQAAL EPKLDL LLEKTKELQKLI EADISKRYSGRPVNLMGTSL

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**FIGURE 4832**

GAAGAGGGTTCGGGTATCTGGGCATGCGCAGGGCCGCGAGGACTCTTGGTGGGGTAGCGAGGGGGACGGTCCCACGA  
CTGCTCCGAAGGGCCGGGACTCCCAGTGGGGGCGGGACCCCGGAGTGCCCGCCTGCGGACTCCCAAGCCTGGAG  
CCTGGGGAGAGGGTGGGCACCTCCGTTCCCGCACACCCGTCCATGGTGTGTGCGCCGAGCGTCCAGGAGCCACGG  
CGGTGTCTTCCTTGCGCGTCTTTTACACGTGTGGGGGTAGGCTGCTCCTCGGGGCTGAGCCGTGGCCAGGGTTAT  
GGAGAGGCCCCGCTCTCCCCAGATGGCGTCTGTCGAGCCCTGACTCCCCATGTTCTGCGACTGCTTTGTCTCCGT  
GCCCCCGGCTCAGCCATCCCGGCTGTGATCTTTGCCAAGAAGTCTCGGACCGACCCCGGGACGAGGTGCAGGAGGT  
GGTGTGTTGTCCCCGAGGCACTCACACTCCTGGGAGCCGGCTCCAGTGCACCTACATTGAAGTGAACAGGTGTCT  
GAAGACGCACGCTGTGATTCTGAGCCGTCTTCTTGGCTATGGGGGGCTGAGATGGGCGCCAACGAGCATGGTGT  
CTGCATTGGCAACGAGGCTGTGTGGACGAAGGAGCCAGTTGGGGAGGGGGAAGCCCTGCTGGGCATGGACCTACT  
CAGGCTGGCTTTTGAACGGAGCAGCTCTGCCAGGAGGCCCTTGATGTGATCACAGGGTTACTGGAGCACTATGG  
GCAGGGGGGCAACTGCCTGGAGGATGCTGCGCCATTCTCCTACCATAGCACCTTCCTGCTGGCTGACCGCACTGA  
GGCGTGGGTGCTGGAGACAGCTGGGAGGCTCTGGGCTGCACAGAGGATCCAGGAGGGGGCCCGCAACATCTCCAA  
CCAGCTGAGCATTGGCACGGACATCTCGGCCCAACACCCGGAGCTGCGGACTCATGCCCAGGCCAAGGGCTGGTG  
GGATGGGCAGGGTGCCCTTTGACTTTGCTCAGATCTTCTCCCTGACCCAGCAGCCTGTGCGCATGGAGGCTGCCAA  
GGCCCGCTTCCAGGCAGGGCGGGAGCTGCTGCGGCAACGGCAAGGGGGCATCACGGCAGAGGTGATGATGGGCAT  
CCTCAGAGACAAGGAGAGTGGTATCTGTATGGACTCGGGAGGCTTTCGCACCACGGCCAGCATGGTGTCTGTCTCT  
GCCCCAGGATCCACGCAGCCCTGCGTGCATTTCTTACCGCCACGCCAGACCCATCCAGGTCTGTGTTCAAACC  
TTTCATCTTCGGGATGGGGGTGGCCAGGCCCCCAGGTGCTGTCCCCCACTTTTGGAGCACAAGACCCTGTTTCG  
GACCCTGCCCCGATTCCAGACTCAGGTAGATCGTCGGCATAACCCTCTACCGTGGACACCAGGCAGCCCTGGGGCT  
GATGGAGAGAGATCAGGATCGGGGGCAGCAGCTCCAGCAGAAACAGCAGGATCTGGAGCAGGAAGGCCTCGAGGC  
CACACAGGGGCTGCTGGCCGGCAGTGGGCCCCACCCCTCTGGGAGCTGGGCAGCCTCTTCCAGGCCTTCGTGAA  
GAGGGAGAGCCAGGCTTATGCGTAAGCTTCATAGCTTCTGCTGGCCTGGGGTGGACCCAGGACCCCTGGGGCCTG  
GGTGCCCTGAGTGGTGGTAAAGTGGAGCAATCCCTTCACGCTCCTTGGCCATGTTCTGAGCGGCCAGCTTGGCCT  
TTGCCTTAATAAATGTGCTTTATTTTC

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**FIGURE 4833**

MASSSPDSPCSCDCFVSVPASAIPIAVIFAKNSDRPRDEVQEVVFPAGTHTPGSRLOCTYIEVEQVSKTHAVIL  
SRPSWLWGAEMGANEHGVCIGNEAVWTKEPVGEALLGMDLLRLALERSSSAQEALHVITGLLEHYGGNCLE  
DAAPFSYHSTFLLADRTEAWVLETAGRLWAAQRIQEGARNISNQLSIGTDISAQHPELRTHAQAKGWDGQGAFD  
FAQIFSLTQQPVMEAAKARFQAGRELLRQRQGGITAEVMMGILRDKESGICMDSGGFRRTASMVSVLPQDPTQP  
CVHFLTATPDPSRSVFKPFIIFGMGVAQAPQVLSPTFGAQDPVRTLPRFQTQVDRRHTLYRGHQAALGLMERDQDR  
GQQLQQKQDLEQEGLEATQGLLAGEWAPPLWELGSLFQAFVKRESQAYA



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**FIGURE 4834**

TCTCCCTCCGCTCCCGAGCACCAGCGCGCTCTGAGCTGCCCCAGGGTCCCTCCCCCGCCGCCAGCAGCCATT  
TGGAGGGAGGAAGTAAGGGAAGAGGAGAGGAAGGGGAGCCGGACCGACTACCCAGACAGAGCCGGTGAATGGGTT  
TGTGGTGACCCCCGCCCCCACCACCCCTCCCTTCCCACCCGACCCCCAACCCCATCCCCAGTTCGAGCCGCC  
GCCGAAAGGCCGGGCGCTCGTCTTAGGAGGAGTCCGCGCCGCCACCTCCGCCATGGAGCTGATCACCATT  
TCGAGAAGACCGTGTCTCCCGATCGGCTGGAGCTGGAAGCGGCGCAGAAGTTCCTGGAGCGTGCGGCCGTGGAGA  
ACCTGCCCACTTTCTTGTGGAACGTCCAGAGTGTGGCAAATCCAGGAAACAGTCAGGTTGCCAGAGTTGCAG  
CTGGTCTACAAATCAAGAACTCTTGACATCTAAAGATCCAGATATCAAGGCACAATATCAGCAGAGGTGGCTTG  
CTATTGATGCTAATGCTCGACGAGAAGTCAAGAACTATGTTTTGCAGACATTGGGTACAGAACTTACCGGCCTA  
GTTCTGCCTCACAGTGTGTGGCTGGTATTGCTTGTGCAGAGATCCCAGTAAACCAGTGGCCAGAATCATTCTC  
AGCTGGTGGCCAAATGTACAAAACCCCAACAGCACAGAGCACATGAAGGAGTGCACATTGGAAGCCATCGGTTATA  
TTTGCCAAGATATAGACCCAGAGCAGCTACAAGATAAATCCAATGAGATTCTGACTGCCATAATCCAGGGGATGA  
GGAAAGAAGAGCCTAGTAATAATGTGAAGCTAGCTGCTACGAATGCACTCCTGAACTCATTGGAGTTACCAAAG  
CAAACCTTTGATAAAGAGTCTGAAAGGCACCTTTATTATGCAGGTGGTCTGTGAAGCCACACAGTGTCCAGATACGA  
GGGTACGAGTGGCTGCTTTACAGAAATCTGGTGAAGATAATGTCCTTATATTATCAGTACATGGAGACATATATGG  
GTCCTGCTCTTTTTGCAATCACAATCGAAGCAATGAAAAGTGACATTGATGAGGTGGCTTTACAAGGGATAGAAT  
TCTGGTCCAATGTCTGTGATGAGGAAATGGATTGGCCATTGAAGCTTCAGAGGCAGCAGAACAAGGACGGCCCC  
CTGAGCACACCAGCAAGTTTTATGCGAAGGGAGCACTACAGTATCTGGTTCCAATCCTCACACAGACACTAACTA  
AACAGGACGAAAATGATGATGACGATGACTGGAACCCCTGCAAAGCAGCAGGGGTGTGCCTCATGCTTCTGGCCA  
CCTGCTGTGAAGATGACATTGTCCCACATGTCTCCCTTCATTAAAGAACACATCAAGAACCCAGATTGGCGGT  
ACCGGGATGCAGCAGTGTGGCTTTTGGTTGTATCTTGAAGGACCAGAGCCAGTCAGCTCAAACCACTAGTTA  
TACAGGCTATGCCCACCCTAATAGAATTAATGAAAGACCCAGTGTAGTTGTTCCAGATACAGCTGCATGGACTG  
TAGGCAGAATTTGTGAGCTGCTTCTGAAAGCTGCCATCAATGATGTCTACTTGGCTCCCTGCTACAGTGTCTGA  
TTGAGGGTCTCAGTGTGAACCCAGAGTGGCTTCAAATGTGTGCTGGGCTTTCTCCAGTCTGGCTGAAGCTGCTT  
ATGAAGCTGCAGACGTTGCTGATGATCAGGAAGAACCAGCTACTTACTGCTTATCTTCTTCAATTTGAATCATAG  
TTCAGAAGCTCCTAGAGACTACAGACAGACCTGATGGACACCAGAACAACCTGAGGAGTTCTGCATATGAATCTC  
TGATGGAAATTGTGAAAAACAGTGCCAAGGATTGTTATCCTGCTGTCCAGAAAACGACTTTGGTTCATCATGGAAC  
GACTGCAACAGGTTCTTCAGATGGAGTCACATATCCAGAGCACATCCGATAGAATCCAGTTCAATGACCTTCAGT  
CTTTACTCTGTGCAACTCTTCAGAATGTTCTTCGGAAGTGCAACATCAAGATGCTTTGCAGATCTCTGATGTGG  
TTATGGCCTCCCTGTTAAGGATGTTCCAAAGCACAGCTGGGTCTGGGGGAGTACAAGAGGATGCCCTGATGGCAG  
TTAGCACACTGGTGGAAGTGTGGGTGGTGAATTCCTCAAGTACATGGAGGCCTTTAAACCTTCTCTGGGCATTG  
GATTAAAAAATTATGCTGAATACCAGGTTTGTGTTGGCAGCTGTGGGCTTAGTGGGAGACTTGTGCCGTGCCCTGC  
AATCCAACATCATACCTTTCTGTGACGAGGTGATGCAGCTGCTTCTGGAATAATTGGGGAATGAGAAGCTCCACA  
GGTCTGTGAAGCCGAGATTCTGTCACTGTTTGGTGATATTGCCCTTGCTATTGGAGGAGAGTTAAAAAATACT  
TAGAGGTTGTATTGAATACTCTTCAGCAGGCCTCCCAAGCCAGGTGGACAAGTCAGACTATGACATGGTGGATT  
ATCTGAATGAGCTAAGGGAAAGCTGCTTGAAGCCTATACTGGAATCGTCCAGGGATTAAAGGGGGATCAGGAGA  
ACGTACACCCGGATGTGATGCTGGTACAACCCAGAGTAGAATTTATTCTGTCTTTCATTGACCACATTGCTGGAG  
ATGAGGATCACACAGATGGAGTAGTAGCTTGTGCTGCTGGACTAATAGGGGACTTATGTACAGCATTGGAAGG  
ATGTACTGAAATTAGTAGAAGCTAGGCCAATGATCCATGAATTGTTAACTGAAGGGCGGAGATCGAAGACTAACA  
AAGCAAAAACCTTGCTACATGGGCAACAAAAGAACTGAGGAACTGAAGAACCAAGCTTGATCTGTTACCATTG  
GGATGATAACCTGAGGACCCCCACTGGAATCTCCCATCTTTTGA AAAACCTGGAAGTGAGGAGTGTGCACGGAT  
GCTGAATGTTTGGGAATGAGAGGATGAGTGAGTGAGGCTTGAAAACACACCACATTGAAAATCCTGCCACAGCAG  
CAGCCGCAGCCGCAACAGCAGCGCTGTTAGTGAGCTAAGTAAGCACTGACTTCGTAGAAAACCATAACATCGGC  
CATCTTGAAAAAGAGAAAAACAATGGAGTTACTTATTTAAAAA AAAAAAAAAAAAAA

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**FIGURE 4835**

MELITILEKTVSPDRLELEAAQKFLERA AVENLPTFLVELSRVLANPGNSQVARVAAGLQIKNSLTSKDPDIKAQ  
YQQRWLAI DANARREVKNYVLQTLGTETYPSSASQCVAGIACAEIPVNQWPELIPQLVANVTNPNSTEHMKEST  
LEAIGYICQDIDPEQLQDKSNEILTAI IQGMRKEEPSNNVKLAATNALLNSLEFTKANFDKESERHFIMQVVCEA  
TQCPDTRVRVAALQNLVKIMSLYYQYMETYMG PALFAITIEAMKSDIDEVALQGIEFWSNVCDEEMDLAIEASEA  
AEQGRPPEHTSKFYAKGALQYLVPILTQTLTKQDENDDDDWNPCAAAGVCLMMLLATCCEDDIVPHVLPFIKEHI  
KNPDWRYRDAAVMAFGCILEGPEPSQLKPLVIQAMPTLIELMKDPSVVVRDTAAWTVGRICELLPEAAINDVYLA  
PLLQCLIEGLSAEPRVASNVCWAFSSLAEAA YEADVADDQEEPATYCLSSSFELIVQKLETTDRPDGHQNNLR  
SSAYESLMEIVKNSAKDCYP AVQKTTLVIMERLQQVLQ MESH IQSTSDRIQFNDLQSLLCATLQNVLRKVQHODA  
LQISDVVMASLLRMFQSTAGSGGVQEDALMAVSTLVEVLGGEFLKYMEAFKPF LGIGLKNYAEYQVCLA AVGLVG  
DLCRALQSNIIPFCDEVMQLLENLGNENVHRSVKPQILSVFGDIALAIGGEFKKYLEVVLNTLQQASQAQVDKS  
DYDMVDYLNELRESCLEAYTGIVQGLKGDQENVHPDVMLVQPRVEFILSFIDHIAGDEDHTDGVVACAAGLIGDL  
CTAFGKDV LKLVEARPMIHELLTEGRRSKTNKAKTLATWATKELRKLKNQA

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**FIGURE 4836**

CCCTCCCCCTCCGCCCCCTTCCCCGTAGGCAGCCCGCCCGCCAGTCCGCCCCGACCGCCTCCTTCCCAGCCCCCTAG  
CGCTCCGGCTGGGTCTCTCCCCGCCCCCAGGCTCCCCCGGTGCTCTCCTCCGGCGGTGCGCCGCGCTCGGTG  
**GATG**TGGCTGGCAGCTGCCGCCCCCTCCCTCGCTCGCCGCTGCTCTTCTCGGCCCTCCGCCTCCTCCCCCTCCT  
CCTTCTCGTCTTCAGCCGCTCCTCTCGCCGCGCCTCCACAGCCTGGGCCTCGCCGCGATGCCGGAGAAGAGGCC  
CTTCGAGCGGCTGCCTGCCGATGTCTCCCCATCAACTACAGCCTTTGCCTCAAGCCCGACTTGCTGGACTTCAC  
CTTCGAGGGCAAGCTGGAGGCCGCCGCCAGGTGAGGCAGGCGACTAATCAGATTGTGATGAATTGTGCTGATAT  
TGATATTATTACAGCTTCATATGCACCAGAAGGAGATGAAGAAATACATGCTACAGGATTTAACTATCAGAATGA  
AGATGAAAAAGTCACCTTGTCTTTCCTTAGTACTCTGCAAACAGGTACGGGAACCTTAAAGATAGATTTTGTGG  
AGAGCTGAATGACAAAATGAAAGGTTTCTATAGAAGTAAATATACTACCCCTTCTGGAGAGGTGCGCTATGCTGC  
TGTAACACAGTTTGAGGCTACTGATGCCGAAGGGCTTTTCTTGCTGGGATGAGCCTGCTATCAAAGCAACTTT  
TGATATCTCATTGGTTGTTCCCTAAAGACAGAGTAGCTTTATCAAACATGAATGTAATTGACCGGAAACCATACCC  
TGATGATGAAAATTTAGTGGAAGTGAAGTTTGCCCGCACACCTGTTATGTCTACATATCTGGTGGCATTGTGTGT  
GGGTGAATATGACTTTGTAGAAACAAGGTCAAAGATGGTGTGTGTGTCCGTGTTTACACTCCTGTTGGCAAAGC  
AGAGCAAGGAAAATTTGCGTTAGAGGTTGCTGCTAAAACCTTGCCTTTTTATAAGGACTACTTCAATGTTCTTA  
TCCTCTACCTAAAATTGATCTCATTGCTATTGCAGACTTGCAGCTGGTGCCATGGAGAACTGGGGCCTTGTTAC  
TTATAGGGAGACTGCATTGCTTATTGATCCAAAAAATTCCTGTTCTTCATCCCGCCAGTGGGTTGCTCTGGTTGT  
GGGACATGAACTCGCCCATCAATGGTTTGGAATCTTGTTACTATGGAATGGTGGACTCATCTTTGGTTAAATGA  
AGGTTTTGCATCCTGGATTGAATATCTGTGTGTAGACCACTGCTTCCAGAGTATGATATTTGGACTCAGTTTGT  
TTCTGCTGATTACACCCGTGCCAGGAGCTTGACGCCTTAGATAACAGCCATCCTATTGAAGTCAGTGTGGGCCA  
TCCATCTGAGGTTGATGAGATATTTGATGCTATATCATATAGCAAAGGTGCATCTGTCTATCCGAATGCTGCATGA  
CTACATTGGGGATAAGGACTTTAAGAAAGGAATGAACATGTATTTAACCAAGTTCCAACAAAAGAATGCTGCCAC  
AGGTAATCTCT**TAA**TAGCTTGAGATAGAAATGGAGAGAAAGTATTGTCACCTCTATCCAGGCTGGGACATTTTATT  
TTGTTCTGAATACTTAAGGTCAGGATCCATGTAATAAATAAATTAGCCTTATTG

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**FIGURE 4837**

MWLAAAAPSLARRLLFLGPPPPPLLLLVSRRSRRRLHSLGLAAMPEKRPFERLPADVSPINCSLCLKPDLLDFT  
FEGKLEAAAQVRQATNQIVMNCADIDIITASYAPEGDEEIHATGFNYQNEDEKVTLSFPSTLQTGTGTLKIDFVG  
ELNDKMKGFYRSKYTTPSGEVRYAAVTQFEATDARRAFPCWDERAIKATFDISLVVPKDRVALSNMNVIDRKPY  
DDENLVEVKFARTPVTSTYLVAFFVGEYDFVETRSDGVCVCVYTPVGKAEQGFVAEVAAKTLPFYKDYFNVPY  
PLPKIDLIAIADFAAGAMENWDLVITYRETALLIDPKNSCSSSRQWVALVVGHELAHQWFNLVTMEWWTHRLNE  
GFASWIEYLCVDHCFPEYDIWTQFVSADYTRAQELDALDNSHPIEVSVGHPSEVDEIFDAISYSGASVIRMLHD  
YIGDKDFKKGMNMYLTKFQQKNAAAGNL

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**FIGURE 4838**

CGCCCGGGCAGGTCTCCCGGAAGTGGCCGGTCCAGAGCTGTGGGGTGCCTCCGCGCGGTCTCTGGCGGATCGGGG  
AATCGGATCAAGGCGAGAGGATCCGGCAGGGAAGGAGCTTCGGGGCCGGGGTTGGGCCGCACATTTACGTGCGC  
GAAGCGGAGTGGACCGGGAGCTGGTGACGATGCGGGGCCGAGCCCCCTGGCGCTGCAACTGGAACAGTTGTTGA  
ACCCGCGACCAAGCGAGGCGGACCCTGAAGCGGACCCCGAGGAAGCCACTGCTGCCAGGGTGATTGACAGGTTTG  
ATGAAGGGGAAGATGGGGAAGGTGATTTCTAGTAGTGGGTAGCATTAGAAAAGTGGCATCAGCCTCCCTCTTGG  
ACACGGACAAAAGGTATTGCGGCAAAACCACCTCTAGAAAAGCATGGAATGAAGACCATTGGGAGCAGACTCTGC  
CAGGATCGTCTGATGAGGAAATATCTGATGAGGAAGGGTCTGGAGATGAAGATTCAGAGGGACTGGGTCTGGAGG  
AATATGATGAGGACGACCTGGGTGCTGCTGAGGAACAGGAGTGTGGTGATCACAGGGAGAGCAAGAAGAGCAGAA  
GCCACTCTGCAAAAACACCGGGCTTCAGTGTCAGAGTATCAGTGACTTTGAGAAATTTACCAAGGGAATGGATG  
ACCTTGGGAGCAGTGAGGAGGAGGAAGACGAAGAGAGTGGCATGGAAGAAGGGGATGACGCGGAAGACTCCCAAG  
GCGAGAGTGAGGAAGACAGGGCTGGAGATAGAAACAGTGAGGATGATGGTGTGGTGATGACCTTCTCTAGTGTC  
AAGTTTCTGAGGAAGTGGAGAAAGGAAGAGCCGTGAAGAACCAGATAGCACTGTGGGACCAGCTCTTGGAAGGAA  
GGATCAAACTACAAAAAGCTCTGTTGACCACCAACCAGCTTCCTCAACCAGATGTTTTCCATTGTTCAAGGACA  
AAGGTGGCCCAAGATTTTCCAGTGCCCTGAAAAATAGTCACAAGGCACTTAAAGCATTGTTGAGGTCAATGGTAG  
GTCTTCAGGAAGAGTTGCTTTTCCAGTACCCAGACACTAGATATCTAGTAGATGGGACAAAGCCCAATGCGGGAA  
GTGAGGAGATTTCTAGTGAAGATGATGAGCTGGTAGAAGAGAAGAAGCAGCAACGAAGAAGGTCCCTGCAAGA  
GGAAGCTGGAGATGGAGGACTATCCAGCTTCATGGCAAAGCGCTTTGCCGACTTTACAGTCTACAGGAACCGCA  
CACTTCAGAAATGGCACGATAAGACCAAACTGGCTTCTGGAAGAACTGGGGAAGGGTTTTGGTGCTTTGAACGCT  
CAATCTTGACTCAGATCGACCATATTCTGATGGACAAAGAGAGATTACTTCGAAGGACACAGACCAAGCGCTCTG  
TCTATCGAGTTCTTGGCAAACCTGAGCCAGCAGCTCAGCCTGTCCCAGAGAGTTTGCCAGGGGAACCGGAGATCC  
TTCCTCAAGCCCCCTGCTAATGCTCATCTGAAGGACTTGATGAAGAAATCTTTGATGATGATGACTTTTACCACC  
AGCTCCTTCGAGAACTCATAGAACGGAAGACCAGCTCCTTGGATCCCAACGATCAGGTGGCCATGGGAAGGCAGT  
GGCTTGCAATCCAGAAGTTACGAAGCAAAATCCACAAAAAAGTAGATAGGAAAGCCAGCAAAGGCAGGAACTTC  
GGTTTCATGTCCTTAGCAAGCTACTGAGTTTCATGGCACCTATTGACCATACTACAATGAATGATGATGCCAGGA  
CAGAACTGTACCGCTCTCTTTTGGCCAGCTCCACCCTCCCGACGAAGGCCACGGGGATTGACATCGCCACCTC  
CGACACCCAGTGGGCGCCTTGGCTGGTGCGGTGCTGGTCCAGATGGAGGAAACCAGTGACTTTATGGGGCTGAG  
CTAGTAGGGAAGCCCCCTGGAAAGATGCTGCGTTCCGAACCTGTGCCTAATACACGAAGGGCGCTGTCCCGCCCA  
ACCCCGCCTTTAAACGCCACAAATAAAGAGCATTGTTACCGCCAAAAA

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**FIGURE 4839**

MAGPQPLALQLEQLLNPRPSEADPEADPEEATAARVIDRFDEGEDGEGDFLVVGSIRKLASASLLD TDKRYCGKT  
TSRKAWNEDHWEQTLPGSSDEEISDEEGSGDEDSEGLGLEEYDEDDLGAEEQECGDHRESKKSRSHTSAKTPGFS  
VQSI SDFEKF TKGMDDLGSSEEEDEESGMEEGDDAEDSQGESEEDRAGDRNSED DGVMTFSSVKVSEEEVEKGR  
AVKNQIALWDQLLEGRIKLQKALLTTNQLPQPDVFFLFDKGGPEFSSALKNSHKALKALLRSLVGLQEELLFQY  
PDTRYLVDGTPNAGSEEISSEDELVEEKKQORRRVPAKRKLEMEDYPSFMAKRFADFTVYRNRTLQKWHDKTK  
LASGKLKGFGAFERSILTQIDHILMDKERLLRRTQTKRSVYRVLGKPEPAAQPVPESLPGEPEILPQAPANAH  
KDLDEEIFDDDDFYHQLLRELIERKTSSLDPNQVAMGRQWLAIQKLRSKIHKKVDRKASKGRKLRFHVLSKLLS  
FMAPIDHTTMNDDARTELYRSLFGQLHPPDEGHGD

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**FIGURE 4840**

CTTCCCGCCGCTGACCTGGCCCGCCGCTTTCCAGTCTGGCCGGGCGGGCCTGAAGCACGGCGCTCGGGCGT  
GGGACCGTGTTTACACCCCTTTCCAGAAATTCTTGCTGGTAACCGCGAAACCGACTGGAGCAGGAGCTGGGAGAA  
CTGGAGAAAACCTGCTCTAATCTCACTTGACTCCAGCTAGGAGCTGATGCTGCATCGTAATAACATTTGCAGAGCG  
CTTTCACAGGCGCTGGAGTGACTTGTCTGAGATTCTCCAGAACTGAGCCCTTTGTTGGAACCATACCCAGCCC  
ATGGTCCCATGACTAGGTGGATAGTACTCCTTGCTACCTCCTGCAACCCAGAACCCTGGCTGACCACCTTTGAAGGA  
GGATGCTCCAGCAGGTCAATGGCCACAATCCGGGGTCTGATGGCCAAGCCAGGGAGTACCTCAGAGAAGACCTGC  
AGGAGTTCCTGGGTGGGAGGTCTGCTGTACAACTGGATGACCTCACCAGGGTGAATCCTGTGACACTAGAGA  
CAGTCTGAGGTGCCTGCAGGCCCGGTACATGGCAGACACATTCTACACCAATGCTGGCTGCACCCTGGTAGCCT  
TGAACCCCTTCAAGCCTGTTCTCAGCTCTACTCGCCCCGAGCTAATGAGAGAGTACCATGCTGCGCCTCAGCCCC  
AGAAACTGAAGCCCCATGTGTTCACTGTGGGTGAACAGACCTACAGGAATGTCAAGAGCCTGATTGAACCAGTCA  
ACCAGTCTATTGTTGTGCTAGTGGAGAGAGTGGTGTGGAAGACATGGACGTCTCGCTGCCTAATGAAGTTCTATG  
CTGTGGTGGCCACCTCACCTGCATCTTGGGAGAGCCACAAGATTGCAGAGAGGATAGAACAGAGGATCCTGAACT  
CCAACCCCTGTCATGGAAGCTTTTGGGAATGCGTGTACACTGAGGAATAACAACAGCAGTCGCTTTGGGAAGTTCA  
TCCAGCTCCAGCTGAACAGGGCTCAGCAAATGACTGGAGCCGAGTCCAGACCTACCTCCTAGAGAAAACCTCGAG  
TGGCCTGCCAGGCTTCCAGTGAGAGGAACCTCCACATCTTCTATCAGATTTGCAAAGGAGCCAGTGAGGACGAGA  
GGCTCCAGTGGCACCTTCTGAGGGAGCTGCCTTCTCCTGGCTGCCCAACCCAGAGAGGAGCTTAGAAGAGGATT  
GTTTTGAGGTGACCAGAGAGGCCATGCTCCATTGGGCATTGACACCCCTACCCAGAACAACATCTTTAAGGTCC  
TAGCTGGACTGCTGCACCTTGGCAATATCCAGTTTGTCTGCCTCCGAGGATGAAGCCAGCCCTGCCAGCCGATGG  
ATGATGCCAAGTACTCTGTGACGAGCGCAGCCTCGCTGCTGGGGCTCCAGAGGACGTGCTGCTGGAGATGGTGC  
AGATTAGAACCATCAGGGCAGGCAGACAGCAGCAGGTGTTCCGGAAGCCCTGCGCCCGAGCCGAGTGTGACACCC  
GTAGAGACTGCCTGGCCAACTGATCTATGCGCGGTTGTTTACTGGCTGGTATCAGTGATCAACAGCAGCATCT  
GTGCAGACACCGACTCGTGGACCACTTTCATAGGCCTGCTGGATGTGTATGGATTTGAATCATTTCTGACAACA  
GTCTGGAACAGTTGTGCATCAACTACGCCAATGAGAAGCTGCAGCTGGAGGCCTGTGGCCTCGTGGAGACCATCC  
ATATCAGTGTCTGCTGGCTTCCCCATCCGGGTCTCTACCGAACTTTGTAGAACGATACAAGTTACTAAGAAGGC  
TTCATCCTTGACATCCTCTGGCCCCGACAGCCCATATCCTGCCAAAGGGCTCCCTGAATGGTGTCCACACAGCG  
AGGAAGCCACGCTTGAACCTCTCATCCAGGACATTCTCCACACTCTGCCGGTCTTAACCTCAGGCAGCAGCCATAA  
CTGGTGACTCGGCTGAGGCCATGCCAGCCCCCATGCACTGTGGCAGGACCAAGGTGTTTCACTGACTGACTCTATGC  
TGGAGCTTCTGGAATGTGGGCGTGGCCGGGTGCTGGAGCAGTGTGCCCGCTGCATCCAGGGTGGCTGGAGGCGAC  
ACCGGCACCGAGAGCAGGAGCGGCAGTGGCGGGCCGTATGCTCATCCAGGCAGCCATTTCGTTCTGGTTAACTC  
GGAAACACATCCAGAGGCTGCATGCAGCTGCCACAGTCATCAAGCGTGCATGGCAGAAGTGGAGAATCAGAAATGG  
CCTGCCTTGCTGCTAAAGAGCTGGATGGTGTGGAAGAAAAACACTTCTCTCAAGCTCCCTGTTCCCTGAGCACCT  
CGCCGCTGCAGACCAGGCTCCTGGAGGCAATAATCCGCCTCTGGCCCTGGGACTGGTCTGGCCAATACGGCTA  
TGGGTGTAGGCAGCTTTTCAAGGAAATTAGTGGTCTGGGCTTGCCTCCAGCTCCCAGGGGCAGCCCCAGTAGCT  
ACACTGTCCAGACAGCACAAGACCAGGCTGGTGTACGTCCATCCGAGCGCTGCCTCAGGGATCGATAAAGTTTC  
ACTGCAGAAAGTCTCCACTGCGGTATGCTGACATCTGCCCTGAACCTTCACCCTACAGCATTACAGGCTTTAATC  
AGATTCTGCTGGAAAGACACAGGCTGATCCACGTGACCTCTTCTGCCTTCACTGGGCTGGGGTGATCCTTGGTGC  
CTTTGTTTCCACAAGGCCTTTTCTGCCCCCTGCCTTGCCAAAGACATTTAATCAGCACACAGCTGCCAGACTAT  
TCCCACAGTGTCTCAAATGCACATGAACAACAGTGACGGCTCCAGCCTTCGACCCAGAGCCCCGTGCCAGTGCG  
TCAGTGGGCCTGGGGTTCCAGGCTACATCAAGCACTGATGGTGTGAGGGCTGGTAGTTACCAATCAGGGTTAAG  
AAACATCAGGGCCACATTTCACTACCTTCACAGATCAAACCTCAGCAGCAGTCATGACTGTCTGTCACTACACTGG  
GGATCCCAATTCCACATAAGCACTTTTGAAGAAAACAGCCAAAGTTGGCCTAAAATTGGCGCTGGAATTTGGGC  
TGGGAAAAATCTTGTGGTTATTTCTTTAAAAAGGAACAAAACCTTAGTATTTAATTAGTTGATTTATTTAATGT  
AATTTCAAACAATTAAATTATGAATAATGCAATGT

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**FIGURE 4841**

ATGGACATGGCGGATGAGCCACTCAATGGAAGCCACACATGGCTATCCATTCCATTTGACCTCAATGGCTCTGTG  
GTGTCAACCAACACCTCAAACCAGACAGAGCCGTACTATGACCTGACAAGCAATGCAGTCCTCACATTCATCTAT  
TTTGTGGTCTGCATCATTGGGTTGTGTGGCAACACACTTGTCAATTTATGTCATCCTCCGCTATGCCAAGATGAAG  
ACCATCACCAACATTTACATCCTCAACCTGGCCATCGCAGATGAGCTCTTCATGCTGGGTCTGCCTTTCTTGGCT  
ATGCAGGTGGCTCTGGTCCACTGGCCCTTTGGCAAGGCCATTTGCCGGGTGGTCATGACTGTGGATGGCATCAAT  
CAGTTCACCAGCATCTTCTGCCTGACAGTCATGAGCATCGACCGATACCTGGCTGTGGTCCACCCCATCAAGTCG  
GCCAAGTGGAGGAGACCCCGGACGGCCAAGATGATCACCATGGCTGTGTGGGGAGTCTCTCTGCTGGTCATCTTG  
CCCATCATGATATATGCTGGGCTCCGGAGCAACCAGTGGGGGAGAAGCAGCTGCACCATCAACTGGCCAGGTGAA  
TCTGGGGCTTGGTACACAGGGTTCATCATCTACACTTTCAATCTGGGGTTCCTGGTACCCCTCACCATCATCTGT  
CTTTGCTACCTGTTTATTATCATCAAGGTGAAGTCCTCTGGAATCCGAGTGGGCTCCTCTAAGAGGAAGAAGTCT  
GAGAAGAAGGTCACCCGAATGGTGTCCATCGTGGTGGCTGTCTTCATCTTCTGCTGGCTTCCCTTCTACATATC  
AACGTTTCTTCCGTCTCCATGGCCATCAGCCCCACCCAGCCCTTAAAGGCATGTTTGACTTTGTGGTGGTCCTC  
ACCTATGCTAACAGCTGTGCCAACCTATCCTATATGCCTTCTTGTCTGACAACTTCAAGAAGAGCTTCCAGAAT  
GTCCTCTGCTTGGTCAAGGTGAGCGGCACAGATGATGGGGAGCGGAGTGACAGTAAGCAGGACAAATCCCGGCTG  
AATGAGACCACGGAGACCCAGAGGACCCTCCTCAATGGAGACCTCCAAACCAGTATCTGA



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**FIGURE 4842**

MDMADEPLNGSHTWLSIPFDLNGSVVSTNTSNQTEPYDLSNAVLTFIYFVVCIIIGLCGNTLVIYVILRYAKMK  
TITNIYILNLAIADLFLGLPFLAMQVALVHWPFGKAICRVMTVDGINQFTSIFCLTVMSIDRYLAVVHPIKS  
AKWRRPRTAKMITMAVWGVSLLVILPIMIIYAGLRSNQWGRSSCTINWPGESGAWYTGFIYTFILGFLVPLTIIC  
LCYLFIIIKVKSSGIRVGSSKRKKSEKKVTRMVSIVVAVFIFCWLPFYIFNVSSVSMAISPTPALKGMFDFVVVL  
TYANSCANPILYAFLSDNFKKSFQNVLCVLKVS GTDDGERSDSKQDKSRLNETTETQRTLLNGDLQTSI

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**FIGURE 4843**

CAGCGAGCCGCGAGCGCAATCCCGGCGCTCGCCCCAAGGACCCCTGGAAGCTACCGTTACCCCGCCGGCAGCGTGGGC  
GCC**ATG**AGCAGCTCGGGACTGAATTCGGAGAAGGTAGCTGCTCTGATACAGAACTGAATCCGACCCCCAGTTC  
GTACTTGCCCAAGATGTCGGGACCACCCACGACCTGCTGGACATCTGTCTGAAGCGGGCCACGGTGCAGCGCGCG  
CAGCATGTGTTCCAGCACGCCGTGCCCCAGGAGGGCAAGCCAATCACCAACCAGAAGAGCTCAGGGCGATGCTGG  
ATCTTTTCTTGTCTGAATGTTATGAGGCTTCCATTTCATGAAAAAGTTAAATATTGAAGAATTTGAGTTTAGCCAA  
TCTTACCTGTTTTTTTTGGGACAAGGTTGAACGCTGTTATTTCTTCTTGAGTGCTTTTGTGGACACAGCCCAGAGA  
AAGGAGCCTGAGGATGGGAGGCTGGTGCAGTTTTTGTCTTATGAACCCCTGCAAATGATGGTGGCCAATGGGATATG  
CTTGTTAATATTGTTGAAAAATATGGTGTTCCTTAAGAAATGCTTCCCTGAATCTTATACAACAGAGGCAACC  
AGAAGGATGAATGATATTCTGAATCACAAGATGAGAGAATTCTGTATACGACTGCGGAACCTGGTACACAGTGGA  
GCAACCAAAGGAGAAATCTCGGCCACACAGGACGTCATGATGGAGGAGATATTCCGAGTGGTGTGCATCTGTTTG  
GGTAATCCACCAGAGACATTCACCTGGGAATATCGAGACAAAGATAAAAAATTATCAGAAAATTGGCCCCATAACA  
CCCTTGGAGTTTTACAGGGAACATGTCAAGCCACTCTTCAATATGGAAGATAAGATTTGTTTAGTGAATGACCCCT  
AGGCCCCAGCACAAGTACAACAACTTTACACAGTGGAATACTTAAGCAATATGGTTGGTGGGAGAAAACTCTA  
TACAACAACCAGCCCATTGACTTCCTGAAAAAGATGGTTGCTGCTCCATCAAAGATGGAGAGGCTGTGTGGTTT  
GGCTGTGATGTTGGAAAACACTTCAATAGCAAGCTGGGCCTCAGTGACATGAATCTCTATGACCATGAGTTAGTG  
TTTGGTGTCTCCTTGAAGAACATGAATAAAGCGGAGAGGCTGACTTTTGGTGAGTCACTTATGACCCACGCCATG  
ACCTTCACTGCTGTCTCAGAGAAGGATGATCAGGATGGTGTCTTACAAAATGGAGAGTGGAGAATTCATGGGGT  
GAAGACCATGGCCACAAAGGTTACCTGTGCATGACAGATGAGTGGTTCTCTGAGTATGTCTACGAAGTGGTGGTG  
GACAGGAAGCATGTCCCTGAAGAGGTGCTAGCTGTGTTAGAGCAGGAACCCATTATCCTGCCAGCATGGGACCCC  
ATGGGAGCTTTGGCTGAG**TGA**TACTGCCCTCCAGCTCTTTCCCTCCTTCCATGGAACCTGACGTAGCTGCAAAGGA  
CAGATCCAGGGACTGAAGCCAAAGTTATGCAAGGGACTGTGTGTTGCCACAGGACACAGTCAGATTTCCAGTCTC  
CACCAGGAACCTCTTCAGAAAGTGTGCTTTATGCTGAAACAGAATACTGTTAAAGGAAAAAAGAGGGGGGAAG  
ATCAGGTCATACTATCTACTCTCCTCATCTCTAACAGCTCAGGATCTCTTAGCATTTTAATTAGATGTAATTGTT  
TGTCTTTAACTGTCAAAAAGTTTGGTTCTGTGTCTGTGTTTTAATAAGACGAGAGGACGAGCGATTGAGGTGTAT  
GGAGAGAAAAACAGACCTAATGCTCCTTGTTCCTAGAGTAGAGTGGAGGGAGGGTGGCCCTAAGAGTTGAGCTCTCG  
GAACTGCATGCTGCTGGACAGTATCACTGTCTTTTCTAGATGGCAGTCACTGAATTC

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**FIGURE 4844**

MSSSGLNSEKVAALIQKLNSDPQFVLAQNVGTTHDLLDICKRATVQRAQHVFQHAVPQEGKPITNQKSSGRCWI  
FSCLVNMRPFPMKKLNIEEFESQSYLFFWDKVERCYFFLSAFVDTAQRKEPEDGRLVQFLLMNPANDGGQWDML  
VNIVEKYGVIPKKCFPESYTTTEATRRMNDILNHKMREFCIRLRNLVHSGATKGEISATQDVMEEIFRVVCICLG  
NPPETFTWEYRDKDKNYQKIGPITPLEFYREHVKPLFNMEDKICLVNDPRPQHKYNKLYTVEYLSNMVGGRTLY  
NNQPIDFLKKMVAASIKDGEAVWFGCDVGKHFNSKLGLSDMNLVDHEL VFGVSLKNMNKAERLTFGESLMTHAMT  
FTAVSEKDDQDGAFTKWRVENSWGEDHGHKGYLCMTDEWFSEYVYEVVDRKHVPPEVLAVLEQEP IILPAWDPM  
GALAE

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**FIGURE 4845**

GTAGTCTGAGCGCTACCCGGTTGCTGCTGCCCAAGGACCGCGGAGTCGGACGCAGGCAGACCATGTGGACCCTGG  
TGAGCTGGGTGGCCTTAACAGCAGGGCTGGTGGCTGGAACGCGGTGCCCAGATGGTCAGTTCTGCCCTGTGGCCT  
GCTGCCTGGACCCCGGAGGAGCCAGCTACAGCTGCTGCCGTCCCTTCTGGACAAATGGCCCCACAACACTGAGCA  
GGCATCTGGGTGGCCCCCTGCCAGGTTGATGCCCACTGCTCTGCCGGCCACTCCTGCATCTTTACCGTCTCAGGGA  
CTTCCAGTTGCTGCCCCCTTCCCAGAGGCCGTGGCATGCGGGGATGGCCATCACTGCTGCCCCACGGGGCTTCCACT  
GCAGTGCAGACGGGCGATCCTGCTTCCAAAGATCAGGTAACAACCTCCGTGGGTGCCATCCAGTGCCCTGATAGTC  
AGTTTGAATGCCCCGACTTCTCCACGTGCTGTGTTATGGTCGATGGCTCCTGGGGGTGCTGCCCCATGCCCCAGG  
CTTCTGCTGTGAAGACAGGGTGCACTGCTGTCCGCACGGTGCCTTCTGCGACCTGGTTTACACCCGCTGCATCA  
CACCCACGGGCACCCACCCCTGGCAAAGAAGCTCCCTGCCCAGAGGACTAACAGGGCAGTGCCCTTGTCCAGCT  
CGGTCAATGTGTCCGGACGCACGGTCCCGGTGCCCTGATGGTTCTACCTGCTGTGAGCTGCCCAGTGGGAAGTATG  
GCTGCTGCCCAATGCCCAACGCCACCTGCTGCTCCGATCACCTGCACTGCTGCCCCAAGACACTGTGTGTGACC  
TGATCCAGAGTAAGTGCTCTCCAAGGAGAACGCTACCACGGACCTCCTCACTAAGCTGCCTGCGCACACAGTGG  
GGGATGTGAAATGTGACATGGAGGTGAGCTGCCCAGATGGCTATACCTGCTGCCGTCTACAGTCGGGGGCTGGG  
GCTGCTGCCCTTTTACCCAGGCTGTGTGCTGTGAGGACCACATACTGCTGTCCCGCGGGGTTTACGTGTGACA  
CGCAGAAGGGTACCTGTGAACAGGGGGCCCCACCAGGTGCCCTGGATGGAGAAGGCCCCAGCTCACCTCAGCCTGC  
CAGACCCACAAGCCTTGAAGAGAGATGTCCCCTGTGATAATGTCAGCAGCTGTCCCTCCTCCGATACCTGCTGCC  
AACTCACGTCTGGGGAGTGGGGCTGCTGTCCAATCCCAGAGGCTGTCTGCTGCTCGGACCACCAGCACTGCTGCC  
CCCAGGGCTACACGTGTGTAGCTGAGGGGCAGTGTGAGCGAGGAAGCGAGATCGTGGCTGGACTGGAGAAGATGC  
CTGCCCGCCGGGCTTCTTTATCCCAACCCAGAGACATCGGCTGTGACCAGCACACCAGCTGCCCGGTGGGGCAGA  
CCTGCTGCCCGAGCCTGGGTGGGAGCTGGGCCTGCTGCCAGTTGCCCCATGCTGTGTGCTGCGAGGATCGCCAGC  
ACTGCTGCCCGGCTGGCTACACCTGCAACGTGAAGGCTCGATCCTGCGAGAAGGAAGTGGTCTCTGCCCAGCCTG  
CCACCTTCTGGCCCGTAGCCCTCACGTGGGTGTGAAGGACGTGGAGTGTGGGGAAGGACACTTCTGCCATGATA  
ACCAGACCTGCTGCCGAGACAACCGACAGGGCTGGGCCTGCTGTCCCTACCGCCAGGGCGTCTGTTGTGCTGATC  
GGCGCCACTGCTGTCTGCTGGCTTCCGCTGCGCAGCCAGGGGTACCAAGTGTTTGCGCAGGGAGGCCCCGCGCT  
GGGACGCCCCCTTTGAGGGACCCAGCCTTGAGACAGCTGCTGTGAGGGACAGTACTGAAGACTCTGCAGCCCCCTCGG  
GACCCCACTCGGAGGGTGCCCTCTGCTCAGGCCTCCCTAGCACCTCCCCCTAACCAAATTCTCCCTGGACCCCAT  
TCTGAGCTCCCCATACCATGGGAGGTGGGGCCTCAATCTAAGGCCTTCCCTGTCAGAAGGGGGTTGTGGCAAAA  
GCCACATTACAAGCTGCCATCCCCCTCCCCGTTTCAGTGGACCCTGTGGCCAGGTGCTTTTCCCTATCCACAGGGG  
TGTTTGTGTGTGCGCGTGTGCGTTTCAATAAAGTTTGTACACTTTCAAAAAAAAAAAAAAAAAAAAAAAAAAAA  
AAA

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**FIGURE 4846**

MWTLVSWVALTAGLVAGTRCPDGQFCPVACCLDPGGASYSCCRPLLDKWPTTLRHLGGPCQVDAHCSAGHSCIF  
TVSGTSSCCPFPEAVACGDGHHCCPRGFHCSADGRSCFQ RSGNNSVGAIQCPDSQFECPDFSTCCVMVDGSWGCC  
PMPQASCCEDRVHCCPHGAFCDLVHTRCITPTGTHPLAKKLPAQRTNRAVALSSSV MCPDARSRCPDGSTCCCLP  
SGKYGCCPMPNATCCSDHLHCCPQDTVCDLIQSKLSKENATTDLLTKLPAHTVGDVKCDMEVSCPDGYTCCRLQ  
SGAWGCCPFTQAVCCEDHIHCCPAGFTCDTQKGTCEQGPHQVPWMEKAPAHLSLPDPQALKRDVPCDNVSSCPSS  
DTCCQLTSGEWGCCPIPEAVCCSDHQHCCPQGYTCVAEGQCQRGSEIVAGLEKMPARRASLSHPRDIGCDQHTSC  
PVGQTCCPSLGGSWACCQLPHAVCCEDRQHCCPAGYTCNVKARSCEKEVVSAQPATFLARSPHVGVKDVECGEGH  
FCHDNQTCCRDNRQGWACCPYRQGVCCADRRHCCPAGFRCAARGTKCLRREAPRWDAPLRDPALRQLL

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**FIGURE 4847**

GGCTAGGTGCGCTGCGAGCGCGCGGAGCCACGAGGGCGGACGGACGTAATGGGCCCCGCTGGCCCTGGGCGCCGC  
GCCGCACGAGCACCAGCCTAGAGCCAGGACTGAAGCTTCAAGATGGCTGACCAGGACCCTGCGGGCATCAGCCCC  
CTCCAGCAAATGGTGGCCTCAGGCACCGGGGCTGTGGTTACCTCTCTCTTTCATGACACCCCTGGACGTGGTGAAG  
GTTTCGCTGCAGTCTCAGCGGCCCTCCATGGCCAGCGAGCTGATGCCTTCCTCCAGACTGTGGAGCCTCTCCTAT  
ACCAAATGGAAGTGCCTCCTGTATTGCAATGGTGTCTTGGAGCCTCTGTACCTGTGCCAAATGGTGCCCGCTGT  
GCCACCTGGTTTCAAGACCCTACCCGCTTCACTGGCACCATGGATGCCTTCGTGAAGATCGTGAGGCACGAGGGC  
ACCAGGACCCTCTGGAGCGGCCTCCCCGCCACCCTGGTGATGACTGTGCCAGCTACCGCCATCTACTTCACTGCC  
TATGACCAACTGAAGGCCTTCCTGTGTGGTCGAGCCCTGACCTCTGACCTCTACGCACCCATGGTGGCTGGCGCG  
CTGGCCCCGCTGGGCACCGTGACTGTGATCAGCCCCCTGGAGCTTATGCGGACAAAGCTGCAGGCTCAGCATGTG  
TCGTACCGGGAGCTGGGTGCCTGTGTTTCAAAGTGCAGTGGCTCAGGGTGGCTGGCGCTCACTGTGGCTGGGCTGG  
GGCCCCACTGCCCTTCGAGATGTGCCCTTCTCAGCCCTGTACTGGTTCAACTATGAGCTGGTGAAGAGCTGGCTC  
AATGGGTTCAAGCCGAAGGACCAGACTTCTGTGGGCATGAGCTTTGTGGCTGGTGGCATCTCAGGGACGGTGGCT  
GCAGTGCTGACTCTACCCTTTGACGTGGTAAAGACCCAACGCCAGGTGCTCTGGGAGCGATGGAGGCTGTGAGA  
GTGAACCCCTGCATGTGGACTCCACCTGGCTGCTGCTGCGGAGGATCCGGGCCGAGTCGGGCACCAAGGGACTC  
TTTGCAGGCTTCCTTCCTCGGATCATCAAGGCTGCCCCCTCCTGTGCCATCATGATCAGCACCTATGAGTTCGGC  
AAAAGCTTCTTCCAGAGGCTGAACCAGGACCGGCTTCTGGGCGGCTGAAAGGGGCAAGGAGGCAAGGACCCCGTC  
TCTCCACGGATGGGAGAGGGCAGGAGGAGACCCAGCCAAGTGCCTTTTCTCAGCACTGAGGGAGGGGGCTTG  
TTTCCCTTCCCTCCCGGCGACAAGCTCCAGGGCAGGGCTGTCCCTCTGGGCGGCCAGCACTTCTCAGACACAA  
CTTCTTCTGCTGCTCCAGTCGTGGGGATCATCACTTACCCACCCCCCAAGTTCAAGACCAAATCTTCCAGCTGC  
CCCCTTCGTGTTTCCCTGTGTTTGCTGTAGCTGGGCATGTCTCCAGGAACCAAGAAGCCCTCAGCCTGGTGTAGT  
CTCCCTGACCCTTGTTAATTCTTAAGTCTAAAGATGATGAACCTTCAAAAAAAAAA

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**FIGURE 4848**

MADQDPAGISPLQQMVASGTGAVVTSLFMTPLDVVKVRLQSQRPMSASEIMPSSRLWSLSYTKWKCLLYCNGVLE  
PLYLCPNGARCATWFQDPTRFTGTMDAFVKIVRHEGTRTLWSGLPATLVMTVPATAIYFTAYDQLKAFLCGRALT  
SDLYAPMVAGALARLGTVTVISPLELMRTKLQAQHVSYRELGACVRTAVAQGGWRSIWLGWGPTALRDVPFSALY  
WFNYELVKSWLNGFRPKDQTSVGMSFVAGGISGTVAAVLTLPFDVVKTQRQVALGAMEAVRVNPLHVDSTWLLLR  
RIRAESGTKGLFAGFLPRIIKAAPSCAIMISTYEFGKSFFQRLNQDRLLGG

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**FIGURE 4849**

GGAGCCGTCACCCCGGGCGGGGACCCAGCGCAGGCAACTCCGCGCGGGCGGCCCGAGGGAGGGAGCGAGCGG  
GCGGGCGGGCAAGCCAGACAGCTGGGCCGAGCAGCCGCGGGCGCCCGAGGGGCCGAGCGAGATTGTAAACCATG  
GCTGTGTGGATACAAGCTCAGCAGCTCCAAGGAGAAGCCCTTCATCAGATGCAAGCGTTATATGGCCAGCATTTT  
CCCATTGAGGTGCGGCATTATTTATCCCAGTGGATTGAAAGCCAAGCATGGGACTCAGTAGATCTTGATAATCCA  
CAGGAGAACATTAAGGCCACCCAGCTCCTGGAGGGCCTGGTGCAGGAGCTGCAGAAGAAGGCAGAGCACCAGGTG  
GGGGAAGATGGGTTTTTACTGAAGATCAAGCTGGGGCACTATGCCACACAGCTCCAGAACACGTATGACCGCTGC  
CCCATGGAGCTGGTCCGCTGCATCCGCCATATATTGTACAATGAACAGAGGTTGGTCCGAGAAGCCAACAATGGT  
AGCTCTCCAGCTGGAAGCCTTGCTGATGCCATGTCCAGAAACACCTCCAGATCAACCAGACGTTTGAGGAGCTG  
CGACTGGTCACGCAGGACACAGAGAATGAGTTAAAAAAGCTGCAGCAGACTCAGGAGTACTTCATCATCCAGTAC  
CAGGAGAGCCTGAGGATCCAAGCTCAGTTTGGCCCGCTGGCCCGAGCTGAGCCCCCAGGAGCGTCTGAGCCGGGAG  
ACGGCCCTCCAGCAGAAGCAGGTGTCTCTGGAGGCCTGGTTGCAGCGTGAGGCACAGACACTGCAGCAGTACCGC  
GTGGAGCTGGCCGAGAAGCACCAGAAGACCCTGCAGCTGCTGCGGAAGCAGCAGACCATCATCTGGATGACGAG  
CTGATCCAGTGAAGCGGCGGCAGCAGCTGGCCGGGAACGGCGGGCCCCCGAGGGCAGCCTGGACGTGCTACAG  
TCCTGGTGTGAGAAGTTGGCCGAGATCATCTGGCAGAACCGGCAGCAGATCCGAGGGCTGAGCACCTCTGCCAG  
CAGCTGCCCATCCCCGGCCCGAGTGGAGGAGATGCTGGCCGAGGTCAACGCCACCATCACGGACATTATCTCAGCC  
CTGGTGACCAGCACATTTCATCATTGAGAAGCAGCCTCCTCAGGTCCTGAAGACCCAGACCAAGTTTGAGCCACC  
GTACGCCTGCTGGTGGGCGGGAAGCTGAACGTGCACATGAATCCCCCCCAGGTGAAGGCCACCATCATCAGTGAG  
CAGCAGGCCAAGTCTCTGCTTAAAAATGAGAACACCCGCAAXXXXXXXXXXXTGGTGAGATCCTGAACAACCTGCTGC  
GTGATGGAGTACCACCAAGCCACGGGCACCCCTCAXX  
XX  
XX  
XXGGCAGGGTGCCATTTGCCGTGCCTGACAAAGTGCTGT  
GGCCGCAGCTGTGTGAGGCGCTCAACATGAAATTCAAGGCCGAAGTGAGAGCAACCGGGGCCTGACCAAGGAGA  
ACCTCGTGTTCTTGGCGCAGAACTGTTCAACAACAGCAGCAGCCACCTGGAGGACTACAGTGGCCTGTCCGTGT  
CCTGGTCCCAGTTCAACAGGGAGAATTTACCAGGACGGAATTACACTTTCTGGCAATGGTTTGACGGTGTGATGG  
AAGTGTTAAAAAACATCTCAAGCCTCATTGGAATGATGGGGCCATTTTGGGGTTTGTAACAAGCAACAGGCC  
ATGACCTACTCATTAAACAAGCCAGATGGGACCTTCCTCCTGAGATTAGTGACTCAGAAATTGGCGGCATCACCA  
TTGCTTGGAAGTTTGATTCTCAGGAAAGAATGTTTTGGAATCTGATGCCTTTTACCACCAGAGACTTCTCCATT  
GGTCCCTAGCCGACCGCTTGGGAGACTTGAATTACCTTATCTACGTGTTTCTGATCGGCCAAAAGATGAAGTAT  
ACTCAAATACTACACACCAGTTCCCTGCGAGTCTGCTACTGCTAAAGCTGTTGATGGATACGTGAAGCCACAGA  
TCAAGCAAGTGGTCCCTGAGTTTGTGAACGCATCTGCAGATGCCGGGGGCGGCAGCGCCACGTACATGGACCAGG  
CCCCCTCCCCAGCTGTGTGTCCCCAGGCTCACTATAACATGTACCCACAGAACCCTGACTCAGTCCTTGACACCG  
ATGGGGAAGTTCGATCTGGAGGACACAATGGACGTAGCGCGGCGTGTGGAGGAGCTCCTGGGCCGCGCAATGGACA  
GTCAGTGGATCCCGCACGCACAATCGTGACCCCGCGACCTCTCCATCTTCAGCTTCTTCATCTTCACCAGAGGAA  
TCACTCTTGTGGATGTTTTAATTCATGAATCGCTTCTCTTTTGAACAATACTCATAATGTGAAGTGTTAATAC  
TAGTTGTGACCTTAGTGTTTCTGTGCATGGTGGCACCAGCGAAGGGAGTGCGAGTATGTGTTTGTGTGTGTGTGT  
GTGTGTGTGTGTGTGTGTGCGTGTGTCACGTTATGGTGTCTCTCCCTCTCACTGTCTGAGAGTTTGTGTGTAGCAG

A



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**FIGURE 4850A**

GCGGAGCCGGAGGAGCCGCCGCAAAGATGGAGGAGCCGTCGAGGAGGTGCTGCCGCCGCTGCCGCCGCCGCTGCT  
GCCGCCGCCGCCGCCGGAAGCCGGAGCTCGAGCCGCAGCGGGGATGCCGTTCTGAGTGCCCTGACTGCCCTGCCCCCG  
AAGGATGGCCTCGGATGGGCATTAGAGGCACGGCGGCCCGGGCTCCCGTCCCGTCCGTCTGTCTGTTATCGTCT  
GTCTCTCTTGACATCACCCGAGCTCCACCCCTCCCGTCCAGCCCCAACGCCAGCTTCTGCGAGGCCAGAGC  
CGGC**ATGA**ACTCTCCCAACGAGTCGGATGGGATGTGAGGTCGGGAACCATCCTTGAAATCCTGCCGCCGACTTC  
TCTGCACAGCATCCCTGTGACAGTGGAGGTGAAGCCGGTGTGCCAAGAGCCATGCCAGTTCCATGGGGGGTGG  
GGGTGGAGGCAGCCCCAGCCCTGTGGAGCTACGGGGGGCTCTGGTGGGCTCTGTGGACCCACACTGCGGGAGCA  
GCAACTGCAGCAGGAGCTCCTGGCGCTCAAGCAGCAGCAGCTGCAGAAGCAGCTCCTGTTGCTGAGTTCCA  
GAAACAGCATGACCACCTGACAAGGCAGCATGAGGTCCAGCTGCAGAAGCACCTCAAGCAGCAGCAGGAGATGCT  
GGCAGCCAAGCAGCAGCAGGAGATGCTGGCAGCCAAGCGGCAGCAGGAGCTGGAGCAGCAGCGGCAGCGGGAGCA  
GCAGCGGCAGGAAGAGCTGGAGAAGCAGCGGTGGAGCAGCAGCTGCTCATCCTGCGGAACAAGGAGAAGAGCAA  
AGAGAGTGCCATTGCCAGCACTGAGGTAAAGCTGAGGCTCCAGGAATTCCTTGTGCGAAGTCAAAGGAGCCAC  
ACCAGGCGGCCTCAACCATTCCTCCACAGCACCCCAAATGCTGGGGAGCCACCATGCTTCTTTGGACCAGAG  
TTCCCTCCCGAGAGCGGCCCTGGGACGCCTCCCTCTACAACTGCCTTTGCTGGGCCCTACGACAGTCCG  
AGACGACTTCCCCCTCCGCAAAACAGCCTCTGAACCCAACTGAAAGTGCCTTCAAGGCTAAAACAGAAGGTGGC  
TGAGCGGAGAAGCAGTCCCTCCTGCGTCGCAAGGATGGGACTGTTATTAGCACCTTTAAGAAGAGAGCTGTTGA  
GATCACAGGTGCCGGGCTGGGGCGTCCGTGTGTAACAGCGCACCCGGCTCCGGCCCCAGCTCTCCCAACAG  
CTCCACAGCACCATCGCTGAGAATGGCTTTACTGGCTCAGTCCCCAACATCCCCACTGAGATGCTCCCTCAGCA  
CCGAGCCCTCCCTCTGGACAGCTCCCCCAACCACTTACAGCTCTACACGTCTCCTTCTGCCCCAACATCTCCCT  
AGGGCTGCAGGCCACGGTCACTGTACCAACTCACACCTCACTGCCTCCCGAAGCTGTGACACAGCAGGAGGC  
CGAGAGGCAGGCCCTCCAGTCCCTGCGGCAGGGTGGCACGCTGACCGGCAAGTTTCATGAGCACATCCTCTATTCC  
TGGCTGCCTGCTGGGCGTGGCACTGGAGGGCGACGGGAGCCCCACGGGCATGCCTCCCTGCTGCAGCATGTGCT  
GTTGCTGGAGCAGGCCCGGCAGCAGAGCACCTCATTTGCTGTGCCACTCCACGGGCAGTCCCCACTAGTGACGGG  
TGAACGTGTGGCCACCAGCATGCGGACGGTAGGCAAGCTCCCGCGGCATCGGCCCTGAGCCGCACTCAGTCCCTC  
ACCGCTGCCGAGAGTCCCCAGGCCCTGCAGCAGCTGGTCATGCAACAACAGCACCAGCAGTTCTGGAGAAGCA  
GAAGCAGCAGCAGCTACAGCTGGGCAAGATCCTACCAAGACAGGGGAGCTGCCAGGCAGCCACCACCCACCC  
TGAGGAGACAGAGGAGGAGCTGACGGAGCAGCAGGAGGTCTTGCTGGGGGAGGGAGCCCTGACCATGCCCCGGGA  
GGGCTCCACAGAGAGTGAGAGCACACAGGAAGACCTGGAGGAGGAGGACGAGGAAGAGGATGGGGAGGAGGAGGA  
GGATTGCATCCAGGTTAAGGACGAGGAGGGCGAGAGTGGTGTGAGGAGGGGCCGACTTGAGGAGGCTGGTGC  
TGGATACAAAAAAGTGTCTCAGATGCCAGCCGCTGCAGCCTTTGCAGGTGTACAGGCGCCCTCAGCCTGGC  
CACTGTGCCCCACCAGGCCCTGGGCCGTACCCAGTCCCTCCCTGCTGCCCCCTGGGGGCATGAAGAGCCCCCAGA  
CCAGCCCGTCAAGCACCTCTTACACAGGTGTGGTCTACGACAGTTTCATGCTAAAGCACCAGTGATGTGCGG  
GAACACACACGTGCACCTGAGCATGCTGGCCGATCCAGAGCATCTGGTCCCGGCTGCAGGAGACAGGCCTGCT  
TAGCAAGTGCGAGCGGATCCGAGGTGCAAGCCACGCTAGATGAGATCCAGACAGTGCACTCTGAATACCACAC  
CCTGCTCTATGGGACCAGTCCCTCAACCGGCAGAAGCTAGACAGCAAGAAGTTGCTCGGCCCATCAGCCAGAA  
GATGTATGCTGTGCTGCCTTGTGGGGGCATCGGGGTGGACAGTGACACCGTGTGGAATGAGATGCACTCCTCCAG  
TGCTGTGCGCATGGCAGTGGGCTGCCTGCTGGAGCTGGCCTTCAAGGTGGCTGCAGGAGAGCTCAAGAATGGATT  
TGCCATCATCCGGCCCCCAGGACACCACGCCGAGGAATCCACAGCCATGGGATTCTGCTTCTTCAACTCTGTAGC  
CATCACCGCAAACTCCTACAGCAGAAGTTGAACGTGGGCAAGGTCCCTCATCGTGGACTGGGACATTACCATGG  
CAATGGCACCCAGCAGGCGTTCTATAATGACCCCTCTGTGCTCTACATCTCTGTCATCGCTATGACAACGGGAA  
CTTCTTTCCAGGCTCTGGGGCTCCTGAAGAGGTTGGTGGAGGACCAGGCGTGGGGTACAATGTGAACGTGGCATG  
GACAGGAGGTGTGGACCCCCCATTGGAGACGTGGAGTACCTTACAGCCTTCAGGACAGTGGTGATGCCATTGC  
CCACGAGTTCTCACCTGATGTGGTCTAGTCTCCGCCGGGTTTGATGCTGTTGAAGGACATCTGTCTCTCTGGG  
TGGCTACTCTGTACCGCCAGATGTTTTGGCCACTTGACCAGGCAGCTGATGACCCTGGCAGGGGGCCGGGTGGT  
GCTGGCCCTGGAGGGAGGCCATGACTTGACCGCCATCTGTGATGCCCTTGAGGCTTGTGTCTCGGCTCTGCTCAG  
TGTAGAGCTGCAGCCCTTGATGAGGCAGTCTTGAGCAAAAGCCCAACATCAACGCAGTGGCCACGCTAGAGAA  
AGTCATCGAGATCCAGAGCAAACACTGGAGCTGTGTGAGAAAGTTCGCCGCTGGTCTGGGCCGGTCCCTGCGAGA  
GGCCCAAGCAGGTGAGACCGAGGAGGCCGAGACTGTGAGCGCCATGGCCTTGCTGTGCGTGGGGGCCGAGCAGGC

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**FIGURE 4850B**

CCAGGCTGCGGCAGCCCGGGAACACAGCCCCAGGCCGGCAGAGGAGCCCATGGAGCAGGAGCCTGCCCTGTGACG  
CCCCGGCCCCCATCCCTCTGGGCTTCACCATTTGTGATTTTGTATTTTTCTATTAAAAACAAAAAGTCACACA  
TTC

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**FIGURE 4851**

MNSPNESDGMMSGREPSLEILPRTSLHSIPVTVEVKPVLPRAMPSSMGGGGGGSPSPVELRGALVGSVDPTLREQQ  
LQQELLALKQQQQLQKQLLFAEFQKQHDHLTRQHEVQLQKHLKQQQEMLAQKQQQEMLAQKQQQEQQRQREQQ  
RQEELEKQRLEQQLLILRNKEKSKESAIASFEVKLRQLQEFLLSKSKEPTPGGLNHSLPQHHPKCWGAHHASLDQSS  
PPQSGPPGTPPSYKLPPLPGPYDSRDDFPLRKTASEPNLKVRSRLKQKVAERRSSPLLRRKDGTVIISTFKKRAVEI  
TGAGPGASSVCNSAPGSGPSSPNSSHSTIAENGFTGSPVNIPTMLPQHRLPLDSSPNQFSLYTSPSLPNISLG  
LQATVTVTNSHLTASPKLSTQQEAERQALQSLRQGGTLTGKFMSTSSIPGCLLGVALEGDGSPHGHASLLQHULL  
LEQARQQSTLIAVPLHGQSPLVTGERVATSMRTVGKLPRLRPLSRTQSSPLPQSPQALQQQVLMQQQHQQFLEKQK  
QQQLQLGKILTKTGELPRQPTTHPEETEEELTEQQEVLLGEGALTMPREGSTESESTQEDLEEDEEEDGEEED  
CIQVKDEEGESGAEFGPDLEEPGAGYKKLFSDAQPLQPLQVYQAPLSLATVPHQALGRTQSSPAAPGGMKSPDQ  
PVKHLFTTGVVYDTFMLKHQCMCGNTHVHPEHAGRIQSIWSRLQETGLLSKCERIRGRKATLDEIQTVHSEYHTL  
LYGTSPLNRQKLDKLLGPI SQMYAVLPCGGIGVSDTVWNEMHSSSAVRMAVGCLLELAFKVAAGELKNGFA  
IIRPPGHAEESTAMGFCFFNSVAITAKLLQQKLVNGKVLIVDWDIHHGNGTQQAFYNDPSVLYISLHRYDNGNF  
FPGSGAPEEVGGGPGVGVNVNVAWTGGVDPPIGDVEYLTAFTRTVVMPIAHEFSPDVVLVSAGFDAVEGHLSPGG  
YSVTARCFGHLTRQLMTLAGGRVVLAELEGHDLTAICDASEACVSALLSVELQPLDEAVLQQKPNINAVATLEKV  
IEIQSKHWSCVQKFAAGLGRSLREAQAGETEEAETVSAMALLSVGAEQAAAAAREHSPRPAEEPMEQEPAL

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**FIGURE 4852**

CGGAGGAGAGCGCAGGAGGAAACAGTACCGGCTGGAGGCCGGTCTTGCAGGAGCGGGGGACTGCTGGGGGCGGGG  
CTTGGTGGTGACTGCTGGCGGGGCGGGGCCTGGGGCTCAGAGGGGTGGGCTTTGGAGATCAGAGGGTCGACGCTG  
CTTCGTTGCCCTGGACICTGGTTTTCCGCCCTGGAGCAAGCCGGGGCCTGGTCCGGCAGCTGGGCCGCC**ATGG**AGTCC  
ACGCTGGGCGCGGGGCATCGTGATAGCCGAGGCGCTACAGAACCAGCTAGCCTGGCTGGAGAACGTGTGGCTCTGG  
ATCACCTTTCTGGGCGATCCCAAGATCCTCTTTCTGTTCTACTTCCCCGCGGCCTACTACGCCTCCCGCCGTGTG  
GGCATCGCGGTGCTCTGGATCAGCCTCATCACCGAGTGGCTCAACCTCATCTTCAAGTGGTTTTCTTTTGGAGAC  
AGGCCCTTTTGGTGGGTCCATGAGTCTGGTTACTACAGCCAGGCTCCAGCCCAGGTTACACAGTTCCCCTCTTCT  
TGTGAGACTGGTCCAGGCAGCCCTTCTGGACACTGCATGATCACAGGAGCAGCCCTCTGGCCATAATGACGGCC  
CTGTCTTCGCAGGTGGCCACTCGGGCCCGCAGCCGCTGGGTAAGGGTGATGCCTAGCCTGGCTTATTGCACCTTC  
CTTTTGGCGGTTGGCTTGTGCGGAATCTTCATCTTAGCACATTCCCTCACCAGGTGCTGGCTGGCCTAATAACT  
GGCGCTGTCTGGGCTGGCTGATGACTCCCCGAGTGCCTATGGAGCGGGAGCTAAGCTTCTATGGGTTGACTGCA  
CTGGCCCTCATGCTAGGCACCAGCCTCATCTATTGGACCCTCTTTACACTGGGCCTGGATCTTTCTTGGTCCATC  
AGCCTAGCCTTCAAGTGGTGTGAGCGGCCTGAGTGGATACACGTGGATAGCCGGCCCTTTGCCTCCCTGAGCCGT  
GACTCAGGGGCTGCCCTGGGCCTGGGCATTGCCTTGCACTCTCCCTGCTATGCCCAGGTGCGTCGGGCACAGCTG  
GGAAATGGCCAGAAGATAGCCTGCCTTGTGCTGGCCATGGGGCTGCTGGGCCCCCTGGACTGGCTGGGCCACCCC  
CCTCAGATCAGCCTCTTCTACATTTTCAATTTCTCAAGTACACCCTCTGGCCATGCCTAGTCCTGGCCCTCGTG  
CCCTGGGCAGTGCACATGTTCAAGTGCCAGGAAGCACCGCCCATCCACTCTTCT**TGA**CTTCTTGTGTGCCTCCCT  
TTCCTTTCCCTCCCAAAAGCCAACACTCTGTGACCACCACACTCCAGGAGGCAGCCCCATCCCCTTCCAGCCCC  
TAAGTAGGCCCTCCCCTCCCTAAATCTGCTTCCGCACCACCTGGTCTTAGCCCCAAAGATGGGCCTTCTCTCTCC  
CAGATAAGTTGGTCTCCCTCTGCCTTTCTCTCAAGCCCCAAAGAGCAAAGGCAACAGCAAGACCAGCGGGTT  
CTTGCAACACTGTGAGGGGCAGCCAGGGCGGCCCCAATAAAGCCCTTGAATACTT

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**FIGURE 4853**

MESTLGAGIVIAEALQNQLAWLENVWLWITFLGDPKILFLFYFPAAYYASRRVGI AVLWISLITEWLNLI FKWFL  
FGDRPFWWVHESGYYSQAPAQVHQFPSSCETGPGSPSGHCMITGAALWPIMTALSSQVATRARSRWVRVMP SLAY  
CTFLLAVGLSRIFILAHFPHQVLAGLITGAVLGWLMTPRVPMERELSFYGLTALALMLGTSLIYWTLFTLG LDLS  
WSISLAFKWCERPEWIIHVDSRPFASLSRDSGAALGLGIALHSFCYAQVRRQLGNGQKIACLVLAMGLLGPLDWL  
GHPPQISLFYIFNFLKYTLWPCLVLALVPWAVHMFSAQEAPP IHSS

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**FIGURE 4854**

GGCACGAGGCCGCGAGCGGACTGCCCTTTCCCAAGATGCGCTCGAAGATAGGTTTCGAGACGGTGGATGTTGCAGCT  
GATCATGCAGTTGGGTTTCGGTGCTGCTCACACGCTGCCCCCTTTGGGGCTGCTTCAGCCAGCTCATGCTGTACGC  
TGAGAGGGCTGAGGCACGCCGGAAGCCGACATCCCAGTGCCTTACCTGTATTTGACATGGGGGCAGCCGTGCT  
GTGCGCTAGTTTCATGTCCTTTGGCGTGAAGCGGCGCTGGTTTCGCGCTGGGGGCCGCACTCCAATTGGCCATTAG  
CACCTACGCCGCTACATCGGGGGCTACGTCCACTACGGGGACTGGCTGAAGGTCCGTATGTACTCGCGCACAGT  
TGCCATCATCGGCGGCTTTCTTGTGTTGGCCAGCGGTGCTGGGGAGCTGTACCGCCGAAACCTCGCAGCCGCTC  
CCTGCAGTCCACCGGCCAGGTGTTCTGGGTATCTACCTCATCTGTGTGGCCTACTCACTGCAGCACAGCAAGGA  
GGACCGGCTGGCGTATCTGAACCATCTCCAGGAGGGGAGCTGATGATCCAGCTGTTCTTCGTGCTGTATGGCAT  
CCTGGCCCTGGCCTTTCTGTCAGGCTACTACGTGACCCTCGCTGCCCAGATCCTGGCTGTACTGCTGCCCCCTGT  
CATGCTGCTCATTGATGGCAATGTTGCTTACTGGCACAACACGCGGCGTGTGAGTTCTGGAACCAGATGAAGCT  
CCTGGAGAGAGTGTGGGCATCTTCGGAAGTCTGTGTCATCCTGGCCACTGATGGCTGAGTTTTATGGCAAGAGGC  
TGAGATGGGCACAGGGAGCCACTGAGGGTCACCCTGCCTTCCTCCTTGCTGGCCAGCTGCTGTTTATTTATGCT  
TTTTGGTCTGTTTGTTTGATCTTTTGCTTTTTTAAATTTGTTTTTGCAGTTAAGAGGCAGCTCATTTGTCCAAA  
TTTCTGGGCTCAGCGCTTGGGAGGGCAGGAGCCCTGGCACTAATGCTGTACAGGTTTTTTTCTGTTAGGAGAGC  
TGAGGCCAGCTGCCCACTGAGTCTCCTGTCCCTGAGAAGGGAGTATGGCAGGGCTGGGATGCGGCTACTGAGAGT  
GGGAGAGTGGGAGACAGAGGAAGGAAGATGGAGATTGGAAGTGAGCAAATGTGAAAAATTCCTCTTTGAACCTGG  
CAGATGCAGCTAGGCTCTGCAGTCTGTTTGGAGACTGTGAGAGGGAGTGTGTGTGTTGACACATGTGGATCAGG  
CCCAGGAAGGGCACAGGGGCTGAGCACTACAGAAGTCACATGGGTTCTCAGGGTATGCCAGGGGCAGAAACAGTA  
CCGGCTCTCTGTCACTCACCTTGAGAGTAGAGCAGACCCTGTTCTGCTCTGGGCTGTGAAGGGGTGGAGCAGGCA  
GTGGCCAGCTTTGCCCTTCCTGCTGTCTCTGTTTCTAGCTCCATGGTTGGCCTGGTGGGGGTGGAGTTCCTCCC  
AAACACCAGACCACACAGTCCTCCAAAAATAAACATTTTATATAGACAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4855**

MASKIGSRRWMLQLIMQLGSVLLTRCPFWGCFSQLMLYAERAEARRKPDIPVPYLYFDMGAAVLCASFMSFGVKR  
RWFALGAALQLAISTYAAAYIGGYVHYGDWLKVRMYSRTVAIIGGFLVLASGAGELYRRKPRSRSLQSTGQVFLGI  
YLICVAYSLQHSKEDRLAYLNHLPGGELMIQLFFVLYGILALAFLSGYVTLAAQILAVLLPPVMLLIDGNVAYW  
HNTRRVEFWNQMKLLGESVGIFGTAVILATDG

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**FIGURE 4856**

AAAGGACCGAGGCGTGCAGCGGACAGCAGATGGATCCCGCGGCCAGCAGCTGCATGAGGAGCCTCCAGCCCCAG  
CCCCGTGCTGGGGCTGCCTTCGAAACCCCCACTCGGAAGGCAATGGGGCCTCAGGGCTACCCCACTACCCGCCCA  
CCCCGTTCCTTCCACCAGAAACCAGACTTCCTGGCGACAGCGACGGCAGCGTACCCTGACTTCTCAGCCTCCT  
GCCTGGCAGCCACCCACACAGCCTGCCCCAGGAGGAGCACATCTTCACTGAGCAGCACCCCGCTTTCCACAGT  
CCCCCAACTGGCACTTCCCTGTCTCAGACGCCCGGCGCAGGCCCAACTCAGGCCCGGCAGGGGGTTCCAAGGAAA  
TGGGGACCAGCAGCCTGGGCCTGGTGGACACCACAGGAGGCCAGGCGATGACTACGGGGTGCTTGGGAGCACTG  
CCAATGAGACAGAGAAGAAATCATCCAGGCGGAGAAAGGAGAGTTTACAGACAACCAGGAGAACAGAGGGAAGCCGG  
AGGGCAGCAGCAAAGCCCGCAAGGAGAGGACGGCCTTCACCAAGGAGCAGCTGCGAGAGCTGGAGGCAGAGTTTG  
CCCATCATAACTACCTGACTCGGCTCCGCAGATATGAGATTGCGGTAAACCTGGACCTCTCTGAGCGCCAGGTCA  
AAGTGTGGTTCCAGAACC GAAGGATGAAGTGAAGCGTGTGAAGGGAGGTGAGCCCATCTCCCCCAATGGGCAGG  
ACCTGAGGATGGGGACTCCACAGCCTCTCCAAGTTCAGAGTGAGATTCTGCATGGAGGAAAAATGACTAAGGAC  
TGAGCCCCCTACCCAATACCCCCACCCCAATCCACCTTACCCTCTTCTTCCCCAGCCAGGGCAGCCTCTCC  
ACATCTTTCCCTGACTCTTGGATATGAAACTGCCAGCATTCCTGGGAGTCTTAGGATTTTCTAGGAAGTTCTGT  
CCAGCCTCTTAGCAGCCTCTTCCCTAGGGCCTTTGCTCCACACTCTCATGGAATCAGACAGAGATCCTACCGGG  
CCGGATGAATCTGGAACAGCTTCAGAGATACTGCTTCTCAGCGTCTCTTGGCTGCCACCCATGCCTCCTCCTAC  
CGCTGTTCTCCTAGGTCAGCCAGGCCTCCTCCTGGTCTGGACACCACCTGGCCTGGTGGGAGAGGAGCTTTGGAA  
CCAGCTGGCGACTCGGAAAGTAAATGCTTCAAAGGAAGGAAATGACAGAGACACACGCCCTTGCCACCTTCCT  
CTGTAGGCTGCACATCTGAGGCTTTGGGGCCCCCTTAGTTGTCCGAAACCCCAAGAAAAATCAGAATGAGGAGAG  
TCAAGGACAGCAACTCAGCTGCTGCAAGCCAGAAACACATCCCTGTCTCCAAATTTGTTGGCTAAGTGAGACAC  
TTCTGAGAACTGACTAGAGAAGACAGAAAAATAGCCCGATGTAGGTTTCGGTGTCCCCATATAGGCCCGTCCACA  
CAGGCTTGACTGGGTGGACAAGAATGAACCCATGACAGCACCTGCTGCTTCAAAATCAAAATCAATTTAGGGATA  
CAGCAGGGGCTGTTGGGCTGTGCTCCAGAGAAAAGGAGCAGCTACTCCTTTTAAATCCACGATTTCTGGATTGAA  
AACCTGTCCAGATGCTGAGTTGTTGGGCTGAACAACCTAGGAGCTGAAAACAACGTAGAGGCTGGAAAGTGTCCTCC  
TGCAATCTGGAGGGGAGGGGAGATAATAAGGAGGGCTGCTGGGTGAGGGCCTGGAGATGTGGAACCTGGAGTGG  
AAGGTTCTCCAGTGACAGTGCTCCTGTGACTGCAAAAGGGGACAAGAAAATCCCTCTTCTCCATGGGATGGATTT  
AAGCTCTTGCTGTGTGTTCTACAAATGCTGTTATTGTGGGAGGAAATGCTAGGTTTTTGTGTGTGGACTGCCAG  
ACCTCAGCCAGGTCTTCTGGAGATGACATTTGAGGACTGATGGCCAAAGAGCATGGGGGACTGAAGCCCTGGCTG  
CCTCAGCGCTCTGTCTCCCAACACCAGCTGGTGTGTCAGAGGGAGGTCAACGTGAGTTTGGATCTCTTGTACGCA  
GATGTAATCATTACATGTAAAAATAACCCACCTCCCCACCCCAAAAGGGCAAGAGCTGTGGAAAAATGATTGC  
CAATGAGATGGCTGGTTAGAGCATGATTTTTCTAAAGCATACTTCATATATTTTCTTAAGATTACATCAAGCT  
AATTGTGCGAGCTCAATTCACCTTGTAAAGAAAACCTCTCGGAGAAATAAAATCAATAAAAAAGC



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**FIGURE 4857**

GAGCGGCCCCGAGGAGGACGCAGCGGCGCTGGAGCTTTCGTCGGACGAGGCGGTGGAGGTTGAGGAGGTTATTGAG  
GAGTCCCGCGCAGAGCGTATCAAGCGCAGACACTGCGGCGCGTGGACGACTTCAAGAAGGCCTTCTCCAAGGAGA  
AGATGGAGAAGACCAAGGTGCGTACCCGCGGAGAACCTGGAGAAGACGCGCCTCAAGACCAAGGAAAACCTGGAGA  
AGACGCGGCACACCCTGGAGAAGCGCATGAACAAGCTGGGCACGCGCCTGGTGCCCGCCGAGCGGCGCGAGAAAC  
TGAAGACGTGCGGGGACAAGTTGCGCAAATCCTTCACGCCCCGACCACGTGGTGACGCGCGCTCCAAGACCGCGG  
TCTACAAGGTGCCACCCTTCACCTTCCACGTCAAGAAGATCCGCGAGGGCCAGGTGGAAGTGCTCAAGGCCACCG  
AGATGGTGGAGGTGGGCGCCGACGACGAGGGCGGCGGAGCGCGGGGAGGCCGCGACCTGCGGCGCGGGAGC  
AGCCCCGACGTGCACGCGCTGCTGGAGATCACCGAGGAGTCGGACGCCGTGCTGGTGACAAGAGCGACAGCGAC  
TGAGCCGCCCCCGCTGCCACCCACCCCATTCCTCGCTCCTTCCGAACCTTCTCTTTCGCATTCTCTCTCGGCTCG  
AGCTGGCTGAGATTTTTCTAAATTGAAAACACGCCCCCTCCCCACACCTCCAGGAACTCCACTCCCAGTCTTAG  
AGCTGTTAGGACCCGATGGGGAGGCAGCCCCCGAGTGGACAGCCCCGCTTGGACACAGTCCGAGTGGAATGGG  
AAGGGAATGGTCAATCCCTGTCTGGTTGTCCAAGTCGGGATCTCAGAGGAAATTGCAGTGATTCCACGGTTAGG  
CCCCCTGGGGGGGCTGCCTTCCCCTCAGCCTCTCCCCACACCACCCACCCAGCTGCTGTCAATCCGCTCACTGA  
GCTCTTCTTCAATCTCACCTGATCCCTGGGGGACTCAAAGCCAAAACCTGCCCAAAGAGGAAAGATTGAATCCTA  
AAGGGGATCCTTGCCCCCATGGGAGGCCCTTACTAGAAGGACGTGAAAGCAGCTTTTGGGGGAAACTGAGGCAG  
TGGGGAAGACAGAGCAGAATGAGCCCTCACCTGGCTGGGGGTCCAGCACAGGCTGTATCTGCAGAGGGTCCAG  
AGGAACGCTGGAGCCAAGAGAAGCCCTGGGAAGGAGGGGTGGGGAACGACATGCATGTGAGGGATGCCACACTGA  
TGTGTTTATGCACCTGTACACAGGAGCGCATGGCCATGGCTTTGGAAAGGAGAATGGAAAAATAGAAGAAGGTCTG  
GCCGGGCTTGGTGGCTTATGCCTGTAACCCAGCACTTTGGGAGGCCGAGGTGGGCGGATCACCTGAGGTCAGGA  
GTTCCGGACACGCTGGCAAACACCCCATCTCTACTAAGCGAAAACCCATCTCTACTAAAATTACAAAAATTAGC  
TGGGCATGATTGCGCATGCCTGTAATCCAGCTACTTTGGAGGCTGAGGTGGGGAGAATTGCTTGAACCTGGGAG  
GTGGAGGTTGCAGTGAGCCAAGGTGCGGACACTGCACTCCAGCCTGGGTGACAGAGTGAGACTCCATCTCAACAG  
AAGGAAAAAAAGGAAAAATAGGAGAAGGTGGAATGGGTGAAGAGAGAAGTCCCCTCACTAGCTGCATGAGAAAT  
CTATCTTACTGTGGTTCTCCATGGGCAGCAGGACCATTTTTCAGAATCAAGAGGGAGGACAGTGTGAGAAGGCGA  
TGATCCAAAGAAGACAGAGAGGTGAGCCCCACCCGATCCCTCAAATGGGCTCTTGGAGGCACCCCCAGGGGCAGC  
CCATTTCTCAAAGTCCAGAAAAATTAGGGTCCCAGAAGGGGGCAGCAGCAGGCTGGGAGTTAGGAGGGAGAGCAGG  
GTGCCGGCCCTGCCACCAAGTTGAGAGCTGGAGGGGAGGTGGGGAGAGAACATCACAGAGCAGCCAGCCCTGGTT  
CACTCCTGGCAGTTTCTTCTCAAGCTCCTTCCCTAGGAGCATGGTGGCACGTGCCTGTGGTCTCAGCTACTTGGG  
AGGCTGAGGCGGGAGGATCGCCAGAGCCCAGGAGTTTGGGCTGCAGTGAGCTATGAGGGTGCCTCTGTGCTCCA  
TCCTAGGCAACAGAGTGAGACGCTGTTTAAAAAGGAAAAAATCCTTCCCTAGAGCTAGTATCCTAAAGCTGCAGA  
GCTAGCCCAGACCTCATTGTTTTCTTGTCTTGGGGTGCTTTTCTGAATCTTTGGGGGTGAAGGGAGTGTTGC  
TCCCAGTCCAGAGGCCTGATTCTGTTTCGACTGGGTCTCAAGACACGACCAGGTCTCAAGACACGAGTCCCCCT  
TGTTCTTCCCATTAAGGGGGTTTGTGAGAAGCAAGAACAGCCCCCTCTCCCAGTCACAGCCTGAAGGGAGGCC  
CCGAGAGCTTCTCCTTCCCCCACCTGCTCCTTACCTTCTCTGCCCTGCTTTTTAGAACTGCAGTTTCAATTGTTT  
TAAGGGATTGGGGGAGGGAGCCTGGGGACACAAACCTTTTATACAATACAAAGCTTTGCTTTTTTTTTTTTTTTC  
TTCTTTTCCCTTTCTCGTTCTCTTCTCTCTCTGAATGGCTGAAGACCCCTCTGCCGAGGGAGGTTGGGGATT  
GTGGGACAAGGTCCCTTGGTGCTGATGGCCTGAAGGGGCTGAGCTGTGGGCAGATGCAGTTTTCTGTGGGCTTG  
GGGAACCTCTCACGTTGCTGTGTCTGGTGAGCAGCCCGACCAATAAACCTGCTTTTCT

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**FIGURE 4858**

MEKTKVRTRENLEKTRLKTKENLEKTRHTLEKRMNKLGTRLVPAERREKLKTSRDKLRKSFTPDHVYARSKTAV  
YKVPPFTFHVKKIREGQVEVLKATEMVEVGADDDEGGGARGGRRPAAREQPRRARAAGDHRGVGRRAGGQERQRL  
SRPRCHPPHSSLLPNFLFRILSRLELAEIFLN

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**FIGURE 4859**

ATGGCCGTATTCCGGTCTGGGTCTCCTGGTGCTGACGACGCCGCTGGCCTCCCTAGCCCCCTCGCCTGGCCTCCATC  
CTGACCTCGGCGGCCCCGGCTGGTGAATCACACACTCTATGTTACCTGCAGCCGGGCATGAGCCTGGAGGGCCCCG  
GCTCAGCCCCAGTACAGCCCCGTGCAGGCCACGTTTGAGGTTCTTGATTTCATCACGCACCTCTATGCTGGCGCC  
GACGTCCACAGGCACTTGGACGTGAGAATCCTACTGACCAATATCCGAACCAAGAGCACCTTTCTCCCTCCCCTG  
CCCACCTCAGTCCAGAATCTCGCCACCCGCCAGAAGTCGTGTTGACAGATTTCCAGACCCTGGATGGAAGCCAG  
TACAACCCGGTCAAACAGCAGCTAGTGC GTTACGCCACCAGCTGTTACAGCTGTTGTCCGCGACTGGCCTCGGTG  
CTGCTATACTCCGATTATGGGATAGGAGAAGTGCCCGTGGAGCCCCCTGGATGTCCCCTTACCCTCCACGATCAGG  
CCAGCTTCCCCCGTGGCCGGGTCTCCAAAGCAGCCGGTGCGTGGCTACTACCGTGGCGCTGTCGGTGGCACGTTT  
GACCGCCTGCACAACGCCACAAAGGTGTTGCTCAGTGTGCGGTGCATCCTGGCCCAGGAGCAGCTTGTGGTGGGA  
GTAGCAGACAAAGATCTGTTGAAGAGCAAGTTGCTCCCTGAGCTGCTCCAACCTTATACAGAACGTGTGGAACAT  
CTGAGTGAATTCTGGTGGACATCAAGCCCTCCTTGACTTTTGATGTCTATCCCCCTGCTGGACCCCTATGGGCCC  
GCTGGCTCTGACCCCTCCCTGGAGTTCTGGTGGTTCAGCGAGGAGACCTATCGTGGGGGGATGGCCATCAACCGC  
TTCCGCCTTGAGAATGACCTGGAGGAACCTTGCTTTGTACCAGATCCAGCTGCTGAAGGACCTCAGACATACGGAG  
AATGAAGAGGACAAAGTCAGCTCCTCCAGCTTCCGCCAGCGAATGTTGGGGAACCTGCTTCGGCCTCCATATGAA  
AGGCCAGAGCTCCCCACATGTCTCTATGTAATTGGGCTGACTGGCATCAGTGGCTCTGGGAAGAGCTCAATAGCT  
CAGCGACTGAAGGGCCTGGGGGCGTTTGTCATTGACAGTGACCACCTGGGTCTATCGGGCCTATGCCCCAGGTGGC  
CCTGCCCTACCAGCCTGTGGTGGAGGCCCTTTGGAACAGATATTCTCCATAAAGATGGCATCATCAACAGGAAGGTC  
CTAGGCAGCCGGGTGTTTGGGAATAAGAAGCAGCTGAAGATACTCACGGACATTATGTGGCCAATTATCGCAAAG  
CTGGCCCAGAGGAGATGGATCGGGCTGTGGCTGAGGGAAAGCGTGTGTGTGATTGATGCCGCTGTGTGCTT  
GAAGCCGGCTGGCAGAACCTGGTCCATGAGGTGTGGACTGCTGTCTATCCAGAGACTGAGGCTGTAAGACGCATT  
GTGGAGAGGGATGGCCTCAGTGAAGCCGCGGCTCAAAGCCGGCTGCAGAGCCAGATGAGCGGGCAGCAGCTTGTG  
GAACAGAGCCACGTGGTGTCTCAGCACCTTGTGGGAGCCGCATATCACCCAACGCCAGGTGGAGAAAGCCTGGGCC  
CTCTTGCAAGAAGCGCATTCCCAAGACTCATCAGGCCCTCGACTGA

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**FIGURE 4860**

MAVFRSGLLVLTTPPLASLAPRLASILTSAARLVNHTLYVHLQPGMSLEGPAQPQSSPVQATFEVLDFITHLYAGA  
DVHRHLDVRILLTNIRTKSTFLPPLPTSVQNLAPPEVVLTDFTLDGSQYNFVKQQLVRYATSCYSCCPRLASV  
LLYSDYGIGEVPEPLDVPLPSTIRPASPVAGSPKQPVRGYYRGAVGGTFDRLHNAHKVLLSVACILAEQLVVG  
VADKDLLKSKLLPELLQPYTERVEHLSEFLVDIKPSLTTFDVIPLLDPYGPAGSDPSLEFLVVSEETYRGGMAINR  
FRLNDLEELALYQIQLLKDLRHTENEEDKVSSSSFRQRMGLGNLLRPPYERPELPTCLYVIGLTGISGSGKSSIA  
QRLKGLGAFVIDSDHLGHRAYAPGGPAYQPVVEAFGTDILHKDGIINRKVLGSRVFGNKKQLKILTDIMWPIIAK  
LAREEMDRAVAEGKRVCVIDA AVLLEAGWQNLVHEVWTAVIPETEAVRRIVERDGLSEAAAQSRQSMSGQQLV  
EQSHVVLSTLWEPHITQRQVEKAWALLQKRIPKTHQALD

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**FIGURE 4861**

CCTCGCCGCAGGGGGCCCGCCGCTGGCCCGTTTCCGGTCCGGTGGGTACAAGATGACGGAGCCGGGCGCCTCTC  
CCGAGGACCCTTGGGTCAAGGCAAGCCCCGTGGGCGCGCACGCCGGCGAGGGGAGGGCGGGTCTGGGCTCGTGCAC  
GTAGGGGGGCGCGAAGACGAGGGGCTTCCCTCCTGTCCCCAAAGTCCCCACGCTCTCCGTGCCCCGGGGCTGCA  
GAGAAGACAGCTCTACCCCGGTGTGCCAAGGTGGAGTATGCCTACAGCGACAACAGCCTGGACCCCGGGCTTT  
TTGTAGAAAGCACCCGCAAGGGGAGTGTAGTGTCCAGAGCTAATAGCATCGGTTCCACCAGTGCCTCTTCTGTCC  
CCAACACAGATGATGAGGACAGTGATTACCACCAGGAGGCCTACAAGGAGTCCTACAAAGACCGGCGGCGCGCG  
CACACACTCAGGCTGAGCAGAAGAGGAGGGACGCCATCAAGAGAGGCTATGATGACCTTCAGACCATCGTCCCCA  
CTTGCCAGCAGCAGGACTTCTCCATTGGCTCCCCAAAAGCTCAGCAAAGCCATCGTTCTACAAAAGACCATTGACT  
ACATTCAGTTTTTTGCACAAGGAGAAGAAAAAGCAGGAGGAGGAGGTGTCCACGTTACGCAAGGATGTCACCGCCC  
TAAAGATCATGAAAGTGAAGTATGAGCAGATTGTGAAGGCACACCAGGACAACCCCCATGAAGGGGAGGACCAGG  
TCTCTGACCAGGTCAAGTTCAACGTGTTTCAAGGCATCATGGATTCCCTGTTCCAGTCTTCAATGCCTCCATCT  
CAGTGGCCAGCTTCCAGGAGCTGTGACGCTGTGTCTTCAGCTGGATCGAGGAGCACTGTAAGCCTCAGACCCTGC  
GGGAGATTGTGATTGGCGTCTCTGCACCAATTGAAAAACCAGCTTTACTGACCGGTTCTTGAAACCTGGAGAACA  
GCCAACAAGAGGCCCTTGAATCTCTACGTGGCCACTGAACTGCTGGGCCCGGGAGACTGGACTACAACACCTCAC  
ACTGGTCAGCTGGTTTCTACTTGGTGTGTTGGTTTTTCCCAGCCCCATTTTATCTTCAGCGGAGCCGCGGTGTTTG  
TTTTGTGAAAGCTTCTGATTAATTTATTATATTGACGATAAACTCAAACCTACCCAGCCTTCCCCCACTCCAT  
GGAAGTCCTTGGGATGGGCGTCTGCTCTGGACACCCCAAAGAGCTCCTGCCCTCTCAGCCCTTTATTCAAGCCTC  
AGATTTCTGCTCATGATCTACATAGATTTGGAACTGTTTTCTCTGTTTTGGTCTCTTGGGCAACATTTTTGGC  
CCAAGTTTGGGCAACATTTGGCCCAAGTTTGGGCATTTTGGCAGTAGCTGTATGGGAGAAAAAGAGTAAGAGGAA  
ATATTTCCACAGCCATGAAGGGTGAAAGGGCACCTTGTGCCTAGACTAGGGCTGCCTGGTCAGTCCCAGGTGAGG  
CCAAGGGCTTCTGGCCATCTCAGGGAGGGGCCACCAGGTTCCCTCCCTCACCCCATATTCCATCACCTTCCCTCC  
TCTGCTCTGGGTGGTAAGGGAAGCCCTCCCGGTTCCACAGGCTATGATGCTGCATGGCAGAGGCAGGTATAACA  
CAGCACTACATATTGAAATTTTTTATTTTTCTAAATACCAATGCAGTTTTGCTACGGTTACAATTTTTGAAATAT  
TAACTGAGCCTCAAAATCACCTTTCTGTCAAGCATATCTTGGCCTCTCCCATGTCTCAGTGTGCTGCATTTT  
TCCCAGGACTTGGGGGTGGGGTGAAAAGCGTACAAAAGATACTTAAAAGGGCTCCTGGGGGTACACAAGCCAGCA  
GGTCCTGAGTGAAGCCGTGGGCCCTCCAAATGCTCGTTTTATAGCAACCTCTCTCTACCCTAGTTCTCCAAATTC  
ACTTCTGCCTTCCCTCAGGTTTGATATCTGGCAGGTTTGACTATCCAGAGGAAATTAAATATTTTTATATAAAAT  
AAATTATAATAAATATTGCCAAATGCTTTCTTTAGCATTGTTCCAAGTCTAAATGTAACTCAAGCTACTGCA  
ATTTAGACAATGAAATGGGCTGGGTCTACCCCCAGCCACCAGCCCTCATCCTCTCTACCCAGTGTCTGGTTTAT  
GCTTGCTCTCTGACTGCTCTGCTTAAAGGTGAAAGTAGCAGGAACAACAACAAAAGCCAACCAAAAACAAGGTAG  
CCAGTGCAAGACATCTCACTCTTCTGACATCCTGCAGTCCCCACCAGTCCTGACCGTGGGCCCCCTCAGGGGTCTG  
GGAGTGTGACGTTGTAATCTTCATCCGTCTCTATCCCAACTTCCCTCCTGTGAGACAGGGAGACAAGTGAATGAGA  
TGTCACCAGGATAAGACCACAGGGAAGCAAAGAAGGAAGAGAGCTCCACTTACAAAGAACTGCTTCTTGCTCTTG  
GGGTATCCTTCAAGTATTGCATCAGACAGCTCTGTAGCCTGACAAGAAATAAAACCACCCGTTTTTCAGATGGGCA  
GCACTGGGCACTGCCTGTGAGTTTATGATATTGTGT

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**FIGURE 4862**

MTEPGASPEDPWKASPVGAHAGEGRAGRARARRGAGRRGASLLSPKSPTLSVPRGCREDSSHPACAKVEYAYS  
NSLDPGLFVESTRKGSVVS RANSIGSTSASSVPNTDDSDYHQEAYKESYKDRRRRAHTQAEQKRRDAIKRGYD  
DLQTIVPTCQQQDFSIGSQKLSKAIVLQKTIDYIQFLHKEKKKQEEVSTLRKDV TALKIMKVNYEQIVKAHQDN  
PHEGEDQVSDQVKFNVFQGIMDSL FQSFNASISVASFQELSACVFSWIEEHCKPQTLREIVIGVLHQLKNQLY

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**FIGURE 4863**

CAACTACAACGTCCGGCTTTCTGAGTTGGGTGGCGGGAAGGCGATGAGTAAAGGCCGGGCAGAAGCTGCGGTAG  
CCGCCGGGATCCTCCTGAGGTACCTGCAGGAGCAGAACCGGCCCTACAGCTCCCAGGATGTGTTTCGGGAACCTAC  
AGCGGGAACACGGACTGGGCAAGGCGGTGGTGGTGAAGACGCTGGAGCAGCTGGCGCAACAAGGCAAGATCAAAG  
AGAAGATGTACGGCAAGCAGAAGATCTATTTTTCGGATCAGGACCAGTTTGACATGGTGAGTGATGCTGACCTTC  
AAGTCCTAGATGGCAAAATCGTGGCCCTCACTGCTAAGGTGCAGAGCTTGCAGCAGAGCTGCCGCTACATGGAGG  
CTGAGCTCAAGGAATTATCTAGTGCCCTGACCACACCAGAGATGCAGAAAGAAATCCAGGAGTTAAAGAAGGAAT  
GCGCTGGCTACAGAGAGAGATTGAAGAACATTAAAGCAGCTACCAATCATGTGACTCCAGAAGAGAAAGAGCAGG  
TGTACAGAGAGAGGCAGAAGTACTGTAAGGAGTGGAGGAAGAGGAAGAGGATGGCTACAGAGCTGTCTGATGCAA  
TACTTGAAGGATACCCAAGAGCAAGAAGCAGTTCTTTGAGGAAGTTGGGATAGAGACGGATGAAGATTACAACG  
TCACACTCCCAGACCCCTGAGGGGCCACGGTCAGGACTGGTGGGGACTGCAGGATGTCAGAAGAGTGAGATGTC  
TTGCACTGGCTACCTTGTTTTTGGTTGGCTTTTGTGTTGTTCTGCTACTTTCACCTTTAAGCAGAGCAGTCAG  
GAGACAAGCATAAACCAGAGCACTGGGTAGAGAGGATGAGGGCTGGTGGCTGGGGGTAGACCCAGCCATTTTCAT  
TGTCTAAATTGCAGTAGCTTGAGGTAAACATTTAGACTTGGAACAATGCTAAAGGAAAGCATTGCGCAATATTTA  
TTATAATTTAATTTTATATAAAAAATATTTAATTTCTCTGGATAGTCAAACCTGCCAGATATCAAACCTGAGGAA  
GGCAGAAGTGAATTTGGAGAACTAGGGTAGAGAGAGGTTGCTATAAAACGAGCATTGAGAGGGCCACGGCTTCA  
CTCAGGACCTGCTGGGCTTGTGTACCCAGGAGCCCTTTTAAGTATCTTTTGTACGCTTTTCACCCACCCCAA  
GTCCTGGGAGAAATGCAGGCAACACTGAGACATGGGAGAGGCCAAGATATGCTTGACAGAAAGGGTGATTTTGAG  
GCTCAGTTAATATTTCAAAATTGTAACCGTAGCAAACTGCATTGGTATTTAGAAAAATAAAAAATTTCCA

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**FIGURE 4864**

GGGCGGACGGCACAGAGGGAGGGAGCGAGCGAGCAGTGAGTAAGCCAGCAAGGGCGGTCCGGTCCCGAGGTCAGC  
CGAGATTTCTCAGGTCCCTCCGGCCCCCTCCCTGGAGTCCACAGCGCCTCCGGTGTCCAGAGGATCGGACACGGC  
CCGGCCCCGGCCATGGCCTCGTTGCTGAAGGTGGATCAGGAAGTGAAGCTCAAGGTTGATTCTTTTCAGGGAGCGGA  
TCACAAGTGAGGCAGAAGACTTGGTGGCAAATTTTTTCCCAAAGAAGTTATTAGAACTTGATAGTTTTCTGAAGG  
AACCAATCTTAAACATCCATGACCTAACTCAGATCCACTCTGACATGAATCTCCAGTCCCTGACCCCATTCCTC  
TCACCAATAGCCATGATGGACTGGATGGTCCCCTTATAAGAAGCGAAGGTTGGATGAGTGTGAAGAAGCCTTCC  
AAGGAACCAAGGTGTTTGTGATGCCCAATGGGATGCTGAAAAGCAACCAGCAGCTGGTGGACATTATTGAGAAAG  
TGAAACCTGAGATCCGGCTGTTGATTGAGAAATGTAACACGCCTTCAGGCAAAGGTCCCTCATATATGTTTTGACC  
TCCAGGTCAAAATGTGGGTACAGCTCCTGATTCCCAGGATAGAAGATGGAAACAACCTTGGGGTGTCCATTTCAGG  
AGGAAACAGTTGCAGAGCTAAGAACTGTTGAGAGTGAAGCTGCATCTTATCTGGACCAGATTTCTAGATATTATA  
TTACAAGAGCCAAATTGGTTTTCTAAAAATAGCTAAATATCCCCATGTGGAGGACTATCGCCGCACCGTGACAGAGA  
TTGATGAGAAAGAATATATCAGCCTTCGGCTCATCATATCAGAGCTGAGGAATCAATATGTCACTCTACATGACA  
TGATCCTGAAAAATATCGAGAAGATCAAACGGCCCCGGAGCAGCAATGCAGAGACTCTGTACTGAGGCCAGGGCC  
AGGGCCAGGGGACTCTGTGAGTCTGGCTCAAGACCGACATTGCCTTGGTTTGTACATGACTATCGTGATGGGGA  
AACTGGCTGGAAATAGTAATCACACCTCTCTGTTTTTAGTTAGAGTCTAATGAACTCTCATCTAGTTCTGTGAT  
GTGTTTACCTCTTTTTTTCAGGCCTCAGGAACCTCTTATTTCCCTTCCCTAATACCCACACCCAACCTGTCTGTA  
TTTTCTGGAGAACTCCAGGTTTGTGTGTGCAGGATGTTGGCACAAAAATACCTGTGTTTTTCATTCTCCCCCTCTCT  
CCCTCCTGTGTCTTGCCTTTATGTTTTCTTCCGTTTGATAATTAGTTGGTTAAAGCTGAGGGAACCGGAAGGA  
AAGTGCTAGGTGTTTTTTAGGAAGTAGGGTGGCGGGGGACGAACCTCTCTTCTCCTCACATGAGGTTACTGTTTCT  
TTCCTCTGTGGGCATTGGATCCTCCCACAGTTGCCCTGGTGATGACTTAGGGCTTCCCATCTGTGTACATCCCA  
CTTTGAATCTTGATCGTGACAAGAAATACCTTAGGCCTTCAGTCAATTCCGAAGCTCCTTCAGTTGTTTTTATAA  
TGGGCGTTTTTACATGCACATATGTGTATGCATGTATACGCCATACAGACATGCACACACAGACTCCTACTCCA  
TTAGCTAACATACCCTCCCTCTCCACAACCCCTGTCACATACCTTTCAGGAGGTGACAGTTGTCTTAGTTGTCT  
CTACCCAGACAAACGTCCTGGGCCCGTCTCCCTCCTGATACTGTAGCCTCTTGGTACCCAGGGTGAGTTGGTGG  
AGAACAGAGAGATGAGAAGCAGAGGGCTTGGGGAAAGCCTGTTTCTCTCTGACTCAGCCCTTTTTTGGCATTATTG  
CAAGAGCTTGACTCCTGGTTGCCTTTTCCCAGCCAGTTTTCAGTTGGGGTGAAGGTTTCTGCAAGTGTGAGGTCC  
AGATGCTGCTGCTCATGTTGGGCTTTTCTTTTGGGAACATTTCTCTTTATTTATAGTGTCGGGCTTCCGGGGAA  
AGCAATCATTGGTGTGTATGTGTATGTGCATGCACACACGTGCATATACACATTTGTGTATGTGGAAATGTGCTG  
GGCAAGTCAAACTATAGAAGAGTTGCCTCCTGTCTCTCGAATCTTCCAGAGATATCACTTAATTGTTAACAGCT  
TTTGTGTTAATCCCTTCAGCCCCTAGCTCTTTTATTCTACCACGGCTGGAGAGTTGATACCTGCAGTCAGCCTG  
CCAGTGACTCTTAGTGCTGTTTCTGACTTATTTTTCTGTCTCTGTCTTCCAACCCCCAATAATATTCCACCG  
GGGATGCATCATTTTTTACTCCCAATATTCTGTAGAGAGGGAGTCAGGATGCTGTCTTCCCACGAATAGTACTCAG  
TAACAAACCAATTGCATTTTGTGTTGGGCAGTGCTCCCACCCACCCCTCCAGATCCCTTCCAGCTAAAACCCCTCCC  
CCTTCCCTCCATGTGTTTCTCAGTTTCCCGTTTCGTTTGTGTTGGACTGTTTCCACTGCCCCCTCCTCCTACCCCTATC  
ACCCATGGATCGTAATGTAAAATTCTTTTACCATGTCAAGAAATTATTAAAAATACAGGTACTTTGACCTCTTTC  
TAAAGCCGCAGACCCTGGTGAATGCTCTGGTGGCTAGGGATGTACTCATGCTCATATGTGTGCACGCTTGGACA  
CCCACCTCCATGGACACCTAGCCACCCCTGTTGTGTGTCCTTATGCCAGTTGAGCTGAATCTTTTCCCAGTATAG  
TGGAAAGACTGAGGCTTCTGCCTACTGAGCAAGGTTGGGTGCTTCATTGTGTTGAGTCTGAATTATGGGAAAGT  
TAGCTCTTCCCAGACCTAAGCTGCCTTCTCTCCCTACTTTCAG



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**FIGURE 4865**

GCTGAAGACAGAGCGATGGTAGTTCTGGAGGCCTCGCTCCGGGGCCGACCCGAGGCCACAGTGCCTCCGCGGTAG  
ACCGGACTTGGGTGACGGGCTCCGGGCTCCCGAGGTGAAGAGCATCGGGGGCTGAGGGATGGAAGGGTCTAAGAC  
GTCCAACAACAGCACCATGCAGGTGAGCTTCGTGTGCCAGCGCTGCAGCCAGCCCCTGAAACTGGACACGAGTTT  
CAAGATCCTGGACCGTGTCAACATCCAGGAACACAGCTCCATTACTTACCACAGCCCAGGCGAAACCAGGAGA  
GACCCAGGAGGAAGAGACTAACTCAGGAGAGGAGCCATTTATTGAAACTCCTCGCCAGGATGGTGTCTCTCGCAG  
ATTCATCCCCCAGCCAGGATGATGTCCACAGAAAGTGCCAACAGCTTCACTCTGATTGGGGAGGCATCTGATGG  
CGGCACCATGGAGAACCTCAGCCGAAGACTGAAGGTCACTGGGGACCTTTTTGACATCATGTCCGGGCCAGACAGA  
TGTGGATCACCCACTCTGTGAGGAATGCACAGATACTCTTTTAGACCAGCTGGACACTCAGCTCAACGTCCTGA  
AAATGAGTGTGAGAACTACAAACGCTGTTTGGAGATCTTAGAGCAAATGAATGAGGATGACAGTGAACAGTTACA  
GATGGAGCTAAAGGAGCTGGCACTAGAGGAGGAGAGGCTGATCCAGGAGCTGGAAGACGTGGAAGAAACCGCAA  
GATAGTGGCAGAAAATCTCGAGAAGGTCCAGGCTGAGGCTGAGAGACTGGATCAGGAGGAAGCTCAGTATCGGTA  
AGAATACAGTGAATTTAAACGACAGCAGCTGGAGCTGGATGATGAGCTGAAGAGTGTGAAAACAGATGCGTTA  
TGCCCAGACGCAGCTGGATAAGCTGAAGAAAAACCAACGTCTTTAATGCAACCTTCCACATCTGGCACAGTGGACA  
GTTTGGCACAATCAATAACTTCAGGCTGGGTGCGCTGCCAGTGTTCCCGTGAATGGAATGAGATTAATGCTGC  
TTGGGGCCAGACTGTGTTGCTGCTCCATGCTCTGGCCAATAAGATGGGTCTGAAATTTAGAGATACCGACTTGT  
TCCTTACGGAACCATTCATATCTGGAGTCTCTGACAGACAAATCTAAGGAGCTGCCGTTATACTGTTCTGGGGG  
GTTGCGGTTTTTCTGGGACAACAAGTTTGACCATGCAATGGTGGCTTTCCTGGACTGTGTGCAGCAGTTCAAAGA  
AGAGGTTGAGAAAGGCGAGACACGTTTTTGTCTTCCCTACAGGATGGATGTGGAGAAAGGCAAGATTGAAGACAC  
AGGAGGCAGTGGCGGCTCCTATTCCATCAAAACCCAGTTTAACTCTGAGGAGCAGTGGACAAAAGCTCTCAAGTT  
CATGCTGACGAATCTTAAGTGGGGTCTTGCTTGGGTGTCCTCACAATTTTATAACAAATGACTTTTTTCTTAGG  
GGGAGGTTTGCCTTAAAGGCTTTTAATTTTGTTTTGTTTGCAAACATGTTTTAAATTAAATTCGGGTAATATTAA  
ACAGTACATGTTTACAATACCAAAAAAGAAAAATCCACAAAAGCCACTTTATTTTAAATATCATGTGACAGAT  
ACTTTCCAGAGCTACAACATGCCATCTATAGTTGCCAGCCCTGGTCAGTTTGATTCTTAACCCCATGGACTCCT  
TTCCCTTTCTTCTCTGAAAAAACTAATTTAAATTTGCTTTTCTTTTTTTAACTGAGTTGAATTGAGATTGATG  
TGTTTTCACTGGATTTTTATCTCTCTCAACTTCCTGCACTTAACAATATGAAATAGAACTTTTGTCTTTACTGA  
GATGAGGATATGTTTGAGATGCACAGTTGGATAATGTGGGAAAATGACATCTAAGCTTTACCTGGTCACCATGTG  
ATGTGATCAGATGCTTGAAATTTAACACTTTTCACTTGGTTCTTATACTGAATGCCGACTCTGCTCTGTGTTAGA  
GATATGAAATGGTGTGTTGATACTGTTTGAGACATTATGGAGAGATTTAATTATTTGTAATAAAAGATTTGCTGCA  
GTCTGAAACTGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4866**

MEGSKTSNNSTMQVSFVCQRCSQPLKLDTSFKILDRVTIQELTAPLLTTAQAKPGETQEEETNSGEEPFJETPRQ  
DGVSRRFIPPARMMSTESANSFTLIGEASDGGTMENLSRRLKVTGDLFDIMSGQTDVDHPLCEECDTLLDQLDT  
QLNVTENECQNYKRCLEILEQMNEDDSEQLQMELKELALEEERLIQELEDVEKNRKIVAENLEKVQAEAERLDQE  
EAQYQREYSEFKRQQLELDDELKSVENQMRYAQTQLDKLKKTNVFNATFHIWHSGQFGTINNFRGLRPSVPVEW  
NEINAAWGQTVLLLHALANKMGLKFQRYRLVPYGNHSTYLESLTDKSKELPLYCSGGLRFFWDNKFHAMVAFLDC  
VQQFKEEVEKGETRFCLPYRMDVEKGKIEDTGSGGSGSYSIKTQFNSEEQWTKALKFMLTNLKWGLAWVSSQFYNK

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**FIGURE 4867**

TTGGAGGTCCCCCTCCCCACTAAGTGCCTCTTTGCATAGCACCAGTCCCCACCCGCACGCTCTCTGGACCACTAC  
AGCTGGACGGGCAATGGCGGGTCGGGGAGGCGCAGCACGACCCAATGGACCAGCTGCTGGGAACAAGATCTGTCA  
ATTTAAGCTGGTTCTGCTGGGGGAGTCTGCGGTAGGCAAATCCAGCCTCGTCCTCCGCTTTGTCAAGGGACAGTT  
TCAGGAGTACCAGGAGAGCACAATTGGAGCGGCCCTTCCTCACACAGACTGTCTGCCTGGATGACACAACAGTCAA  
GTTTGAGATCTGGGACACAGCTGGACAGGAGCGGTATCACAGCCTGGCCCCCATGTACTATCGGGGGGCCAGGC  
TGCCATCGTGGTCTATGACATCACCAACACAGATACATTTGCACGGGCCAAGAACTGGGTGAAGGAGCTACAGAG  
GCAGGCCAGCCCCAACATCGTCATTGCACTCGCGGGTAACAAGGCAGACCTGGCCAGCAAGAGAGCCGTGGAATT  
CCAGGAAGCACAAGCCTATGCAGACGACAACAGTTTGCTGTTTCATGGAGACATCAGCAAAGACTGCAATGAACGT  
GAACGAAATCTTCATGGCAATAGCTAAGAAGCTTCCCAAGAACGAGCCCCAGAATGCAACTGGTGCTCCAGGCCG  
AAACCGAGGTGTGGACCTCCAGGAGAACAACCCAGCCAGCCGGAGCCAGTGCTGCAGCAACTGAGCCCCCTTGC  
CTGCCCCGCTGCCCCCGCCTCCTCCGCCTGAATGACCCGACTGGAATCCACTCTAACC AATCGCACTTAACGACTC  
GGGCCACCACTGGGGGGGAGGGGGAGGGGTCCACCATGATTTCTCCATATAATTTTGATCATAGGCCGGAGTGA  
GTCATTCCACCTGCACCTTTCTGTACAAATACTAATTCAATTTTAAGTCTTAAGTCACTTTTTTAATATATATGA  
TCTTCTGCTCTTCCCACTTCCTCCCCTTTCTACTGCTCTCCCATTTTCCCTTGCTGGGAGTAGCCACATGCTCTT  
GCCCCCAACCTTGTATATGGGGACAGTGGGGTCAGTGCAGCTACCCCTTTCTTTCCCTCCTGCGGAACAGCGGA  
CCCAGCAAGAGCATCCACATCCTCACTTTGTTTCGAGTGGTCTTTGGTTTGGGCGGTGGGGCAGACCTTGGAAG  
GGGCTTAGGAAGGGAGAGGCAGCTCTTCCTTCAGCTGGCTCTCATCAGGCTGCAGCCCCCTCCCGCTCCACCT  
CCCTGCTGGGAAACCACAGCATTATCACAGCATTATTGTGACAGCCACGAACCCATTGCCACAACCCCTCCACC  
CTCGGTACCCCAACCTCTGGCTCTGAGCCCTGTTCTGACCAAATCATGATGATGAGTATTTGGGGGTGGGTGGG  
TAAGGGGGGGAGTGGGAGGGGACGGAACCAACTTTTTCTGTATTTTGTATTGTATGTTTTCTTCAACATGTAACC  
AATCAGTATCTTGTCAATATAGTCAGCCGATCGATCGACCTC

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**FIGURE 4868**

MAGRGGARPNGPAAGNKICQFKLVLLGESAVGKSSLVLRVFKGQFHEYQESTIGAFLTQTVCLDDTTVKFEIW  
DTAGQERYHSLAPMYRGAQAIVVYDITNTDTFARAKNWKELQRQASPNIVIALAGNKADLASKRAVEFQEAQ  
AYADDNSLLFMETSAKTAMNVNEIFMAIAKKLPKNEPQNATGAPGRNRGVLDQENNPASRSQCCSN

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**FIGURE 4869**

CCGCTCTCCGCTGCGGGGGAGGCCATGGCGGAACCTTCCCAGGCCCCGACCCCGCCCCGGCTGCGCAGCCCCGG  
CCCCCTTACGTCCCCAGCCCCGCCCCAACTCCGACTCCTGCACCCAGCCCCGGCTTCAGCCCCGATTCCGACTCCC  
ACCCCGGCACCAGCCCCCTGCCCCAGCTGCAGCCCCAGCCGGCAGCACAGGGACTGGGGGGCCCCGGGGTAGGAAGT  
GGGGGGGGCCCCGGAGCGGGGGGGATCCGGCTCGACCTGGCCTGAGCCAGCAGCAGCGCGCCAGTCAGAGGAAGGCG  
CAAGTCCGGGGGCTGCCGCGCGCCAAGAAGCTTGAGAAGCTAGGGGTCTTCTCGGCTTGCAAGGCCAATGAAACC  
TGTAAGTGTAATGGCTGGA AAAA ACCCAAGCCCCCACTGCACCCCGCATGGATCTGCAGCAGCCAGCTGCCAAC  
CTGAGTGAGCTGTGCCGCAGTTGTGAGCACCCCTTGGCTGACCACGTATCCCACTTGAGAGATGTGTGAGAGGAT  
GAGATAAACCGACTGCTGGGGATGGTGGTGGATGTGGAGAATCTCTTCATGTCTGTTTCAAGGAAGAGGACACA  
GACACCAAGCAGGTCTATTTCTACCTCTTCAAGCTACTGCGGAAATGCATCCTGCAGATGACCCGGCCTGTGGTG  
GAGGGGTCCCTGGGCAGCCCTCCATTTGAGAAACCTAATATTGAGCAGGGTGTGCTGAACTTTGTGAGTACAAG  
TTTAGTCACCTGGCTCCCCGGGAGCGGCAGACGATGTTTCAGACTCTCAAAGATGTTCTTGCTCTGCCTTAACCTAC  
TGGAAGCTTGAGACACCTGCCAGTTTCGGCAGAGGTCTCAGGCTGAGGACGTGGCTACCTACAAGGTCAATTAC  
ACCAGATGGCTCTGTTACTGCCACGTGCCCCAGAGCTGTGATAGCCTCCCCCGCTACGAAACCACTCATGTCTTT  
GGGCGAAGCCTTCTCCGGTCCATTTTACCCTTACCCGCCGGCAGCTGCTGGAAAAGTTCCGAGTGGAGAAGGAC  
AAATTGGTGCCCGAGAAGAGGACCCCTCATCCTCACTCACTTCCCCAAATTCCTGTCCATGCTGGAGGAGGAGATC  
TATGGGGCAAACCTCTCCAATCTGGGAGTCAGGCTTACCATGCCACCCTCAGAGGGGACACAGCTGGTTCCCCGG  
CCAGCTTCAGTCAGTCAGCGGTTGTTCCAGCACCCCCATCTTCAGCCCCAGCATGGGTGGGGGCAGCAACAGC  
TCCCTGAGTCTGGATTCTGCAGGGGCCGAGCCTATGCCAGGCGAGAAGAGGACGCTCCAGAGAACCTGACCCTG  
GAGGATGCCAAGCGGCTCCGTGTGATGGGTGACATCCCCATGGAGCTGGTCAATGAGGTGATGCTGACCATCACT  
GACCCTGCTGCCATGCTGGGGCCTGAGACGAGCCTGCTTTCGGCCAATGCGGGCCGGGATGAGACAGCCCGCCTG  
GAGGAGCGCCGCGGCATCATCGAGTTCCATGTCTATCGGCAACTCACTGACGCCCAAGGCCAACCGGCGGGTGTTG  
CTGTGGCTCGTGGGGCTGCAGAAATGCTTTTCCACCAGCTGCCGCGCATGCCTAAGGAGTATATCGCCCGCCTC  
GTCTTTGACCCGAAGCACAAGACTCTGGCCTTGATCAAGGATGGGCGGGTCATCGGTGGCATCTGCTTCCGCATG  
TTTCCACCCAGGGCTTCACGGAGATTGTCTTCTGTGCTGTACCTCGAATGAGCAGGTCAAGGGTTATGGGACC  
CACCTGATGAACCACCTGAAGGAGTATCATCAAGCACAACATTCTCTACTTCCCTACCTACGCCGACGAGTAC  
GCCATCGGCTACTTCAAAAAGCAGGGTTTCTCCAAGGACATCAAGGTGCCCAAGAGCCGCTACCTGGGGCTACATC  
AAGGACTACGAGGGAGCGACGCTGATGGAGTGTGAGCTGAATCCCCGCATCCCTACACGGAGCTGTCCACATC  
ATCAAGAAGCAGAAAGAGATCATCAAGAAGCTGATTGAGCGCAAACAGGCCAGATCCGCAAGGTCTACCCGGGG  
CTCAGCTGCTTCAAGGAGGGCGTGAGGCAGATCCCTGTGGAGAGCGTTCTTGGCATTTCGAGAGACAGGCTGGAAG  
CCATTGGGGAAGGAGAAGGGGAAGGAGCTGAAGGACCCCGACCAGCTCTACACAACCCCTCAAAAACCTGCTGGCC  
CAAATCAAGTCTCACCCAGTGCCCTGGCCCTTCATGGAGCCTGTGAAGAAGTCGGAGGCCCCCTGACTACTACGAG  
GTCATCCGCTTCCCCATTGACCTGAAGACCATGACTGAGCGGCTGCGAAGCCGCTACTACGTGACCCGGAAGCTC  
TTTGTGGCCGACCTGCAGCGGGTCATCGCCAACCTGTCGCGAGTACAACCCCCCGACAGCGAGTACTGCCGCTGT  
GCCAGCGCCCTGGAGAAGTTCTTCTACTTCAAGCTCAAGGAGGGAGGCCTCATTGACAAGTAGGCCCATCTTTGG  
GCCGCAGCCCTGACCTGGAATGTCTCCACCTCGGATTCTGATCTGATCCTTAGGGGGTGCCCTGGCCCCACGGAC  
CCGACTCAGCTTGAGACACTCCAGCCAAGGGTCTCCGGACCCGATCCTGCAGCTCTTTCTGGACCTTCAGGCAC  
CCCCAAGCGTGACGCTCTGTCCCAGCCTTCACTGTGTGTGAGAGGTCTCCTGGGTGGGGCCAGCCCCCTCTAGA  
GTAGCTGGTGGCCAGGGATGAACCTTGCCAGCCGTGGTGGCCCCCAGGCCTGGTCCCCAAGAGCTTTGGAGGCT  
TGGATTCTGGGCCTGGCCAGGTGGCTGTTTCCCTGAGGACCAGAACTGCTCATTTTAGCTTGAGTGATGGCTT  
CAGGGGTGGAAGTTAGCCCCAACTGAAGGGGGCCATGCCTTGTCCAGCACTGTTCTGTGAGTCTCCCCCAGG  
GTGGGGGGTATGGGGACCATTCAATCCCTGGCATTAAATCCCTTAGAGGGAATAATAAAGCTTTTTATTCTCTG

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**FIGURE 4870**

MAEPSQAPTPAPAAQFRPLQSPAPAPTPTPAPSPASAPIPTPTPAPAPAPAAAPAGSTGTGGPGVGSGGAGSGGD  
PARPGLSQQQRASQRKAQVRGLPRAKKLEKLGVSACKANETCKCNGWKNPKPPTAPRMDLQQPAANLSELCRSC  
EHPLADHVSHLENVSEDEINRLLGMVVDVENLFMSVHKEEDTDTKQVYFYLFKLLRKCILQMRPVVEGSLGSPP  
FEKPNIEQGVLFVQYKFSHLAPRERQTMFELSKMFLLCLNYWKLETPAQFRQRSQAEDVATYKVNYTRWLCYCH  
VPQSCDSLPRYETTHVFGSLLRSIFTVTRRQLEKFRVEKDKLVPEKRTLILTHFPKFLSMLEEEIYGANSPIW  
ESGFTMPPSEGTQLVPRPASVSAAVVPSTPIFSPSMGGGSNSSLSDSAGAEMPMPGEKRTLPENLTLLEDAKRLRV  
MGDIPMELVNEVMLTITDPAAMLGPETSLLSANAARDETARLEERRGII EFHVIGNSLTPKANRRVLLWLVLGLQN  
VFSHQLPRMPKEYIARLVFDPKHKTALIKDGRVIGGICFRMFPTQGFTEIVFCAVTSNEQVKGYGTHLMNHLKE  
YHIKHNILYFLTYADEYAIGYFKKQGFSDIKVPKSRYLGYIKDYEGATLMECELNPRIPTYELSHI IKKQKEII  
KKLIERKQAQIRKVYPGLSCFKEGVRQIPVESVPGIRETGWKPLGKEKGKELKDPDQLYTTTLKNLLAQIKSHPSA  
WPFMEPVKKSEAPDYEVIRFPIDLKTMTERLRSRYVTRKLFVADLQRVIANCREYNPPDSEYCRCASALEKFF  
YFKLKEGGLIDK

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**FIGURE 4871**

GGCACGAGGCGCGAGCTCGGAGGGCCCCGGCTGGTGCTGCGGGGGCCCCGGGAGGTTGAAAACTAAGCATGGGGAA  
GAGCTGCAAGGTGGTCGTGTGTGGCCAGGCGTCTGTGGGCAAACTTCAATCCTGGAGCAGCTTCTGTATGGGAA  
CCATGTAGTGGGTTTCGGAGATGATCGAGACGCAGGAGGACATCTACGTGGGCTCCATTGAGACAGACCGGGGGGT  
GCGAGAGCAGGTGCGTTTTCTATGACACCCGGGGGCTCCGAGATGGGGCCGAAGTGCCCCGACACTGCTTCTCTTG  
CACTGATGGCTACGTCTCTGGTCTATAGCACAGATAGCAGAGAGTCTTTTCAGCGTGTGGAGCTGCTCAAGAAGGA  
GATTGACAAATCCAAGGACAAGAAGGAGGTCAACATCGTGGTCTTTGGCAACAAGTGTGACTTACAGGAGCAGCG  
GCGTGTAGACCCAGATGTGGCTCAGCACTGGGCCAAGTCAGAGAAGGTGAAGCTGTGGGAGGTGTCAGTGGCGGA  
CCGGCGCTCCCTCCTGGAGCCCTTTGTCTACTTGGCCAGCAAGATGACGCAACCCCGAGAGCAAGTCTGCCTTCCC  
CCTCAGCCGGAAGAACAAGGGCAGCGGCTCCTTGGATGGCTGAAGAGCTGCCGTTCTCTTTTACGATCCCAGCC  
CCATTTTCAGTGTCTGGGGCTCTGGTAGATGTGTTGAGGGCAAAGTAGAGGACAAGCTGTCTTTCCAGTCAGCCA  
GGGAGCTCCCCGCCAGGCCACGCCCCAGCCACTTTGCTCCCTCTCACCTCTGGGAAGTGCAAATACTCTTGTTG  
ACATCCCCTTCTCAGCCCTCCCAGCCTACTCCCCATCCCAGCTTTTAGAGGATCTGCTCCACTGTCTCCTGGGG  
CAGTTGTGGGTCACTGTCCCTTCCAGCTGCCCCAGACAGGAAGCAGAGTCACCACGCAGCAGTGTCCCTTCTTGG  
GTCTGAGTTCTATTATAGGTAGGGGCCCCACCCTCTGGGCTTCCCATCAGCGACACACACACTTATGGCACC  
AGCCTGGACTCCAGAAAAAGGGTGTCCAGGTATTGTGTGTATGCATTTAGTTGTGCACACACAAATATGCTCCTA  
TACTGGCATTAGGCGTCTCCTCATCCCTCACCTTGACCTTTCTCCTGTCTTTTCTTGGCTGGAAGAAGTTGGCC  
TCCTGGGAGTGTAGTTTTCTGTTTTAAATCCCCCACCCTGGCTGGGCTCAGTGGCTCACCCCTGTAATCCCAGC  
ACTTTGGGAGGCCAAGGCGGGTCGATTACTTGAGGTCAAGGAGTTCACGACCAGCCTGGCCAACATTGTGAAACCC  
CATCTCTGCCAAAAATACAAAAGTTAGCCGGGCGTAGTGGCACATGCCTGTAATCCCAGCTACCCGGGGAGGCTG  
AGGCAGGAGAATTGCTTGAAGTCAAGAGGCGGAGGCTGCAGTGAGCCGAGATCGTGCCACTGCACTCCAGCCTGG  
TCAACAGAGCAAGACTCCATCTCGAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4872**

MGKSCKVVVCGQASVGKTSILEQLLYGNHVVGSEMIETQEDIYVGS IETDRGVREQVRFYDTRGLRDGAELPRHC  
FSCTDGYVLVYSTDSRESFORVELLKKEIDKSKDKKEVTIVVLGNKCDLQEQRRVDPDVAQHWAKSEKVKLWEVS  
VADRRSLLEPFVYLASKMTQPQSKSAFPLSRKNKGSGSLDG



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**FIGURE 4873**

GGGAAGATGGCGGCTGTCTGAAGCGGCTGCAGAGCCGGTAACGGTGGTGGCGGCTGTTGGGCCAAAGGCGAAAGAC  
GAAGAGGAGGAGGAAGAGGAGCCGCTGCCACCGTGCGAGGCGGTGCGCTGGGCCCCAGTGGGGCGGTGGCGGAG  
GCCCCGGCTGGGGCAACCGCGTTTTTAGAAGAGGCGACGGCCGAGGAGCCTGGCGCGGCCCGGGCTCCCCGCGG  
GATTCGCCGGGGCCGGACGCTGCGGCGGCTGCGGGCAGAGCGGCGGCGGCTGGACTCGGCGCTGCTGGCGCTGTCC  
TCGCACTTCGCGCAGGTGCAGTTCCGCCTGCGCCAGGTGGTGC GCGGGGCGCGGCGGAGCAGCAGCGCCTTCTG  
CGGGAGCTCGAAGACTTCGCCTTCGCGGCTGCCCTCACGTCTAGGTTACGAAGGGCCCGGCGACCCCGCCAGC  
GATGAGGGCGATGGGCTGCCAGGGGACCGGCCATGGTTGCGGGGCGAGGACCAGAGTGAGCAGGAAAAGCAAGAG  
CGTCTGGAAACCCAAAGGGAGAAGCAGAAAGAACTGATACTGCAGCTCAAGACCCAGCTAGATGACCTGGAAACG  
TTTGCCATCAAGAGGGCAGTTATGACTCGCTGCCACAGTCCGTGGTGTGGAAAGACAGCGGGTGATCATAGAT  
GAGTTAATAAAGAACTGGACATGAATCTGAATGAGGACATCAGTTCCTGTCCACTGAAGAGCTTCGTCAGCGT  
GTAGATGCAGCAGTGGCTCAGATCGTCAACCCAGCCGAGTCAAAGAACAGTTGGTTGAGCAACTGAAAACCTCAG  
ATCCGAGACCTTGAGATGTTTATCAACTTCATCCAAGATGAAGTGGGAAGCCCCCTGCAGACAGGTGGTGGACAC  
TGTGAGTGCAAGGCCGTTGGGAAGACAGGAAATGGCTGCAGCAGAACAGGCAGCAGCAGAACGCCTCCAGGAAAC  
AGCAAAACAAAGGCAGAGGATGTGAAGAAAGTCCGGGAGACGGGGCTGCACCTGATGCGGCGAGCGCTGGCCGTG  
CTCCAGATCTTTGCTGTTAGCCAGTTTGTTGTGCCACAGGCCAGATCCCTCCAACCCGTGGGCGAGAGGGTCCAG  
GCTGACAGAGACTACTCTCCCTTGCTGAAGAGGCTGGAGGTGTGAGTGACAGAGTGAAGCAGCTAGCCTTGAGG  
CAGCAGCCACATGACCATGTCTACCTCTGCCAACCTCCAGGACCTCTCTCTGGGAGGCAAGGATGAGCTGACT  
ATGGCTGTGCGGAAGGAGCTAACGGTGGCTGTGAGGGACCTGCTGGCCCATGGACTGTATGCCCTCCTCCCCAGGG  
ATGAGCCTTGTTATGGCTCCTATTGCTTGTTTGCTGCCAGCCTTCTCCTCGGCCCCAGAGGCCATGCACCCGTGG  
GAGCTCTTTGTAAAGTACTACCATGCTAAGAACGGCCGTGCTTATGTGGAATCCCCAGCCCCGGAAGCTCTCCAG  
TCCTTCGCCCTTCCTGTTACGGGAGGCACTGTTGTACCCCCAAACAGAGCCTACTGACAGCCATCCACATGGTG  
CTGACAGAGCATGACCCCTTTAAGCGCAGTGCAGACTCAGAATTGAAGGCCTTGGTGTGCATGGCACTGAATGAG  
CAGCGTCTGGTGTCTGGGTGAACCTCATCTGCAAGTCCGGGTCACTCATCGAGCCTCACTACCAGCCCTGGAGC  
TACATGGCACACACAGGCTTTGAGAGTGCCCTCAACCTGCTCAGTCGCCTCAGCAGCCTCAAGTTTAGCCTCCCT  
GTAGATCTGGCTGTGCGCCAGCTCAAAAACATCAAAGATGCCTTTTGATGAGAGTGGCCCTAACCCAGACAAGCT  
CCTTGTTTCAGTAGGGATAGATGTGCTAGTCTTCTAGCATAGGAGCAAGGAATCAGAGGTGGGGTTAAAGGCATTT  
TTCCAGACCCTGCTCAGGCAGTCGGCCAAATGAGTGCAAAGTCTGTTTTCCCCACCAACTTAGCTCTCGGAAAG  
ATGTGCTGGAGGGACCTCTTGTTAAGAAGGTTCTGCCAGGCCGGGCGCGGTGGCTCACACCTGTAATCCCAGCA  
CTTTGGGAGGCCGAGGCGGGCGGATCAAAAGGTCAGGAGTTCGAGACCATCCTGTCTAACACGGTGAAACCCCAT  
CTCTACTAAAAATACAAAAAATTAGTCGGACATGGTGGCAGGCACCTGTAGTCCCAGCTACTCGGGAGGCTGAG  
GCAGGAGAATGGCGTGAACCCAGGAGGCGGAGCTTGCAAGTGAAGATCGCGCCACTGCACTCCAGCCTGGGC  
GACAGAGTGAGACTCCGTCTC

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**FIGURE 4874**

MAAVEAAAEPVTVVAAVGP KAKDEEEEEEEPLPPCEAVRWAPVGAVAEARPGATAFLEEATAEEPGAAPGSPPDS  
PGRTLRLRAERRRLDSALLALSSHFAQVQFRLRQVVRGAPAEQQORLLRELEDFAFRGCPHVLGYEGPGDPASDE  
GDGLPGDRPWLRGEDQSEQEKQERLETQREKQKELILQLKTQLDDLET FayQEGSYDSL PQSVLERQ RVIIDEL  
IKKLD MNLNEDISSLSTEELRQRVDAAVAQIVNPARVKEQLVEQLKTQIRDLEMFINFIQDEVGSPLQTGGGHCE  
CKAGGKTGNGCSRTGSSRTPPGNSKTKAEDVKKVRETGLHLMRRALAVLQIFAVSQFGCATGQIPPTLWQRVQAD  
RDYSPLLKRLEVSVDRVKQLALRQQPHDHVITSANLQDLSLGGKDELTMAVRKELTVAVRDLLAHGLYASSPGMS  
LVMAPIACLLPAFSSAPEAMHPWELFVKYYHAKNGRAYVES PARKLSQSFALPVTGGTVVTPKQSLLTAIHMLT  
EHD PFKRSADSELKALVCMALNEQRLVSWVNLICKSGSLIEPHYQPWSYMAHTGFESALNLLSRLSSLKFSLPVD  
LAVRQLKNIKDAF

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**FIGURE 4875**

CTTCCCCAGCTGTGCACTCTCCATCCAGCTGTGCGCTCTCGTCGGGAGTCCCAGCCATGTCCGACGAGAGAGAGG  
TAGCCGAGGCAGCGACCGGGGAAGACGCCTCTTCGCCGCTCCGAAAACCGAGGCAGCGAGCGACCCCCAGCATC  
CCGCGGCCTCCGAAGGGGCCGCCGCCGCCGCTCGCCGCCACTGCTGCGCTGCCTAGTGCTCACC GGCTTTG  
GAGGCTACGACAAGGTGAAGCTGCAGAGCCGGCCGGCAGCGCCCCCGGCCCTGGGCCCCGCCAGCTGACGCTGC  
GTCTGCGGGCCTGCGGGCTCAACTTCGCAGACCTCATGGCTAGGCAGGGGCTGTACGACCGTCTCCCGCTCTGC  
CTGTCACTCCGGGCATGGAGGGCGCGGGTGTGTGATCGCAGTGGGCGAGGGAGTCAGCGACCGCAAGGCAGGAG  
ACCGGGTGATGGTGTGAACCGGTCAGGGATGTGGCAGGAAGAGGTGACTGTGCCCTCGGTCCAGACCTTCCTGA  
TTCCTGAGGCCATGACCTTTGAGGAAGCTGCTGCCCTGCTCGTCAATTACATTACAGCCTACATGGTCCTCTTTG  
ACTTCGGCAACCTACAGCCTGGCCACAGCGTCTTGGTACACATGGCTGCAGGGGGTGTGGGTATGGCTGCCGTGC  
AGCTGTGCCGTACAGTGGAGAATGTGACAGTGTTCGGAACGGCCTCGGCCAGCAAGCACGAGGCACTGAAGGAGA  
ATGGGGTCACACATCCCATCGACTATCACACGACTGACTACGTGGATGAGATCAAGAAGATTTCCCTAAAGGAG  
TGGACATTGTATGGACCTCTGGGTGGGTGAGATACTGCCAAGGGCTACAACCTCCTGAAACCCATGGGCAAAG  
TCGTACCTATGGAATGGCCAACCTGCTGACGGGCCCAAACGGAACCTGATGGCCCTGGCCCGGACATGGTGGA  
ATCAGTTCAGCGTGACAGCTCTGCAGCTGCTGCAGGCCAACCGGGCTGTGTGTGGCTTCCACCTGGGCTACCTGG  
ATGGTGAGGTGGAGCTGGTCACTGGTGTGGTGGCCCGCTCCTGGCTCTGTACAACAGGGCCACATCAAGCCCC  
ACATTGACTCAGTCTGGCCCTTCGAGAAGGTGGCTGATGCCATGAAACAGATGCAGGAGAAGAAGAATGTGGGCA  
AGGTCTCTCTGGTTCCAGGGCCAGAGAAGGAGAAGTTAGGGCAAGTGGCTGTGAGACCTAGAGACCAGCGAAGGG  
AGAAGTTGGGAAGCTACGTTCTGTTGGCCACCAGACTTGCAATTCAGCCTCTGTATAATGCTCTGCCCTCCCTC  
CCCCGAAGTTCTCTGTGGTGATGACCGCTCTCCCTGCCCTCCCCGCTTCCTGACCTCTGAAGAGGTTGGGAAG  
TGACCATTGGATGTCTGGGCCCTGCCAAGGCGACAGGGAGGGTCAGAGGGAGGCGGGCTGCTTCTGCCCCAC  
CCTTTCCCGGGCCTGCTGTGCTGCTTTTGTGCCAAGGTTAGCCAGTCCCCCTGTTGTGTTCCATGTGCTTTCA  
CCTCTGCCTCATCTTTCTCCCGTCCCTGCCCGCCACCTCCCCAAAGAATTGAAACGTCACTCAGGATATGGG  
GCCAATCTCTGTGAGTCCAGCATGTACCTGTCTCTCCCTAGTGTCCTTCAGCCTGGGCTGACCAGTGCCCGCT  
CTGGGCTTGACCAGTTCCCAATCTCGTCTCTGTCCCCAACTTCTTAAGCACAAATTGGGCTTCTTCCATCTCCAG  
GTTTTCTGCCATTCTTAACCAAGGCTGCCTCTTCCAACAGGGCGGGAATCAGACCTACTCCCCTAGGTCACAACT  
CTGGGAAGGATACAGAGCCCCACCCTTCACTGAGTCTCTGGAATTTGTTCTCAGTGCCTTAGCAACGAAAACCT  
GTGCTTGTGTGTGTGTGGCGGGGGAGGGAGGATCCTGTTTCCACCTCCTTCTCCTCCCTGTACTCCCCAGT  
GCCTTCCTTGTCTGGTGGAGCTGGGGTTTCTCTCCTCCCCAGTCCCACAACACTGCCAAAAATCTGTGTATGTG  
CCATTGGGTGGGGCAGCCCCAAGCCTCCTGGGGAGGCAGGGCAAAAACAGGTGCCCTCATCGTGGTCTGTGCCAT  
GTCCCGTCTCTATGGTGGTTGAGGAGAAAGGCGGGGAAGCTTCCTCAGCCTTGAGATATGTGTGGCATTACTA  
GCCAGAGCTCTGAAAGGCAGTGCTGTCTGTTTCTGTACTGGGACCAAAGTAAAAATCCAAGCACATTCCCCTTG  
CAGTTAGGGGAGGCCCTACTGCCTTCTCAAAGCAGAGAGGCAGCTTATCAAATCAGCCCAAACTCTGTTTACA  
TGGGTGGGGAGATGGAGCAGGGAAGTACAGAGTGGGATGGTCAGGACCTGGGCCATTGCAACCAAAATGGGGACT  
TCCTGGGTAGGGAGGTCACTCCCTCTACTCACTGAGCTAGGATTAGGGAGGGTTATTGCCCAACCATTGCAATG  
GGAGGTGGAGGGACAGGCTCAGCCTCCTCATTGTCTAAATGAGGCCTAAATGTGTGAAGTGCGATTTCTGCTTTT  
GTGTACCCACCACCCCATACCACAGCTGCCTTTGTGTGTTTGTGTCAATAAAAAGCCAAACCCTGGGAAAAAA  
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4876**

MSDEREVAEAAATGEDASSPPPKTEAASDPQHFAASEGAAAAAASPPLLRLVLTGFGGYDKVKLQSRPAAPPAPG  
PGQLTLRLRACGLNFADLMARQGLYDRLPPLPVTTPGMEGAGVVIAGGEGVSDRKAGDRVMVLNRS GMWQEEVTVP  
SVQTFLIPEAMTFEEAAALLVNYITAYMVLFD FGNLQPGHSLVHMAAGGVGMAAVQLCRTVENVTVFGTASASK  
HEALKENGVTHTPIDYHTTDYVDEIKKISPKGVDIVMDPLGGSDTAKGYNLLKPMGKVVTYGMANLLTGPKRNLMA  
LARTWWNQFSVTALQLLQANRAVCGFHLGYLDGEVELVSGVVARLLALYNQGH IKPHIDSVWPF EKVADAMKQM Q  
EKKNVGKVLLVPGPEKEN

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**FIGURE 4877**

ATGGAGGGGCAGAGCGGCCGCTGCAAGATCGTGGTGGTGGGAGACGCAGAGTGCGGCAAGACGGCGCTGCTGCAG  
GTGTTGCGCCAAGGACGCCTATCCCGGGAGTTATGTCCCCACCGTGTTTGAGAACTACACTGCGAGCTTTGAGATC  
GACAAGCGCCGCATTGAGCTCAACATGTGGGACACTTCAGGTTCCCTCTTACTATGATAATGTCCGGCCTCTGGCC  
TATCCTGATTCTGATGCTGTGCTCATCTGCTTCGACATTAGCCGACCAGAAACACTGGACAGTGTTCTCAAGAAG  
TGGCAAGGAGAGACTCAAGAGTTCTGCCCCAATGCCAAGGTTGTGCTGGTTGGCTGTAAACTGGACATGCGGACT  
GACCTGGCCACACTGAGGGAGCTGTCCAAGCAGAGGCTTATCCCTGTTACACATGAGCAGGGCACTGTGCTGGCC  
AAGCAGGTGGGGGCTGTGTCTTATGTTGAGTGCTCCTCCCGGTCTCTGAGCGCAGCGTCAGGGATGTCTTCCAT  
GTGGCTACAGTGGCCTCCCTTGGCCGTGGCCATAGGCAGCTGCGCCGAAGTACTCACGCCGGGGAATGCAGCGA  
TCCGCTCAGCTGTCAGGACGGCCAGACCGGGGAATGAGGGCGAGATACACAAGGATCGAGCCAAAAGCTGCAAC  
CTCATGTGA

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**FIGURE 4878**

MEGQSGRCKIVVVGDAECGKTALLQVFAKDAYPGSYVPTVFENYASFEIDKRRIELNMWDTSGSSYYDNVRPLA  
YPDSDAVLICFDISRPETLDSVLKKWQGETQEFCPNAKVVLVGCKLDMRTDLATLRELSKQRLIPVTHEQGTVLA  
KQVGAVSYVECSSRSSERSVRDVFHVATVASLGRGHRQLRRTDSRRGMQSAQLSGRPDRGNEGEIHKDRAKSCN  
LM

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**FIGURE 4879A**

GGCGGAAGCACGATCTCCGGCAGCGGCCTGGGAACCTCTTAGCTGAGCAGGCGAGAGCATCATGGATACCGACTTA  
TATGATGAGTTTGGGAATTATATTGGACCAGAGCTTGATTCTGATGAAGATGATGATGAATTGGGTAGAGAGACC  
AAAGATCTTGATGAGATGGATGATGATGACGACGACGATGACGTAGGAGATCATGACGATGACCACCCTGGGATG  
GAGGTGGTGTGCATGAGGACAAGAAGTACTACCCAACAGCCGAGGAGGTGTATGGTCCTGAGGTGGAGACCATA  
GTTCAGAGGAAGACACTCAGCCTCTCACAGAACCCATTATTAAGCCAGTGAAAACCAAGAAATTCCTCTGATG  
GAGCAGACATTACCTGTTACGGTGTATGAGATGGATTTCTTGGCGGATCTGATGGATAACTCAGAGCTCATCAGA  
AATGTGACCCTTTGTGGACATCTCCACCATGGCAAGACATGTTTTGTGGATTGTTTAATTGAACAGACTCACCCG  
GAAATCAGAAAGCGCTATGACCAAGATCTGTGCTATACTGACATCCTCTTCACAGAGCAAGAGAGAGGTGTAGGC  
ATCAAAAGCACTCCTGTGACAGTGGTCTTGCCAGACACCAAGGAAAATCTTATCTCTTCAATATCATGGACACT  
CCAGGACATGTGAATTTCTCTGATGAGGTACAGCTGGCTTGCGCATCTCAGATGGAGTGGTCTTTTTCATTGAT  
GCTGCTGAGGGGGTGTATGCTGAACACAGAGCGGCTGATCAAGCATGCGGTGCAGGAGAGGCTGGCAGTCACTGTG  
TGCATCAACAAGATTGACCGGCTGATCCTGGAGCTGAAGCTGCCTCCAACCTGATGCTTATTACAAGCTGCGCCAC  
ATTGTGGATGAGGTCAATGGATTAATAAGCAIGTATTCCACTGATGAGAACCTGATCCTTTCCCAAGATCTATGCCGACACC  
AACGTCTGCTTCTCCAGCTCCCAGTACAGCATCTGCTTTCAGCTGGGCTCCTTTGCCAAGATCTATGCCGACACC  
TTTGGTGACATTAATTACCAAGAATTTGCTAAAAGACTCTGGGGTGACATCTACTTCAACCCTAAGACGCGAAAG  
TTCACCAAAAAGGCCCAACTAGCAGCTCCCAGAGAAGTTTCGTGGAGTTTATCTTGGAGCCTCTTTATAAGATC  
CTCGCCCAGGTTGTAGGTGACGTGGACACCAGCCTCCCACGAGCCTAGACGAGCTTGGCATCCACCTGACGAAG  
GAGGAGCTGAAGCTGAACATCCGCCCTTGCTCAGGCTGGTCTGCAAAAAGTTCTTTGGCGAGTTCACAGGCTTT  
GTGGACATGTGTGTGCAGCATATCCCTTCTCCAAAGGTGGGCGCCAAGCCCAAGATTGAGCACACCTACACCGGT  
GGTGTGGACTCCGACCTCGGCGAGGCTATGAGTGACTGTGACCCTGATGGCCCCCTGATGTGCCACACTACTAAG  
ATGTACAGCACAGATGATGGAGTCCAGTTTTCAGCCTTTGGCCGGGTGCTGAGTGGCACCATTTCATGCTGGGCAG  
CCTGTGAAGGTACTGGGGGAGAACTACACCCTGGAGGATGAGGAAGACTCCCAGATATGCACCGTGGGCGCCTT  
TGGATCTCTGTGGCCAGGTACCACATCGAGGTGAACCGTGTCTCTGCTGGCAACTGGGTTCTGATTGAAGGTGTT  
GATCAACCAATTGTGAAGACAGCAACCATAACCGAACCCCGAGGCAATGAGGAGGCTCAGATTTTCCGACCCTTG  
AAGTTCAATACCACATCTGTTATCAAGATTGCTGTGGAGCCAGTCAACCCCTCAGAGCTGCCCAAGATGCTTGAT  
GGCCTGCGCAAGGTCAACAAGAGCTATCCATCCCTCACCACCAAGGTGGAGGAGTCTGGCGAGCATGTGATCCTG  
GGCACTGGGGAGCTCTACCTGGACTGTGTGATGCATGATTTGCGGAAGATGTACTCAGAGATAGACATCAAGGTG  
GCTGACCCAGTTGTACGTTTTGTGAGACGGTGGTGGAAACATCCTCCCTCAAGTGCTTTGCTGAAACGCCTAAT  
AAGAAGAACAAGATCACCATGATTGCTGAGCCTCTTGAGAAGGGCCTGGCAGAGGACATAGAGAATGAGGTGGTC  
CAGATTACGTGGAACAGGAAGAAGCTGGGAGAGTTCTTCCAGACCAAGTACGATTGGGATCTGCTGGCTGCCCGT  
TCCATCTGGGCTTTTGGCCCTGATGCGACTGGCCCCAACATTCTGGTGGATGATACTCTGCCCTCTGAGGTGGAC  
AAGGCTCTTCTTGGTTTCAGTGAAGGACAGCATCGTTCAAGGTTTCCAGTGGGGAACCAAGGAGGGCCCCCTCTGT  
GATGAATTGATTTCGAATGTCAAGTTTAAGATCCTGGATGCGGTGGTTGCCCAAGGAGCCCCCTGCACCGGGGCGGG  
GGCCAGATCATCCCCACAGCCAGGAGAGTCTGCTACTCTGCCTTCTCATGGCTACTCCTCGTCTGATGGAGCCT  
TACTACTTTGTAGAGGTCCAGGCCCCCTGCAGATTGCGTCTCTGCAGTTTATACCGTCTTGCCAGGCGCAGGGGG  
CACGTGACTCAGGATGCACCCATCCCAGGCTCCCCTCTGTACACCATCAAAGCTTTTATCCCGGCCATCGACTCT  
TTTGGCTTTGAGACTGATCTCCGACTCACACCCAGGGACAAGCCTTTTCTCTGTCTGTCTTCCACCACTGGCAG  
ATTGTGCCTGGTGATCCCCTGACAAAGAGCATTGTATCCGCCCTTGGAGCCACAGCCAGTCTCTCACCTGGCC  
CGGGAATTCATGATCAAAAACCCGCCGTAGGAAGGGCCTCAGTGAAGATGTGAGCATCAGCAAATTTCTCGATGAT  
CCTATGTTGCTGGAACTTGCCAAACAGGATGTTGTGCTCAATTACCCCATGTGAGTGCGTGGACTCCTGGGAGCT  
CCTGCTCCCTACAGTGGGCTGCAACTCCTGTACTTGAAGCTGAGACCTCATATGACGTGGCCTTCGTGTTGTGAG  
AGAGTGTCTGGAAGCTGCTGTTGCCATCTTGAACAACCTACCAACCTCCAACCCAGAGCCCCAGTGAGAGAGGAG  
CATTTGGCCTCCTGCTTCCCTCTGTGGCCTCTGCCGGGCTCCATTCCCAAGGAAAAGAGAGGAGCTTGGGCTCAC  
AGAAAAGAGAAGGGGATGAAACCCCAAGGGGCCCTATCTTTGGGATTTACATGGAATTTTATTTTCTACAAGTTTG  
ACCTTAGCCATGGTTTGCAAGTGAACAGAACATTCTGACCTCTGTCTTGTCTGTCTCTTTCATCCTCGTCTCCC  
CTGCCCCATCTGGTGCTTACATTCTGAATATATGTCATCTCCAAGAGGCTTCACTGCCTCTGCTTCCAGCTGCA  
GCCTCCTTCTGCTGGGTCCCAGGGAAGCCGCTGCCTTTTAATTCAGTGTTCCCATGAGCGCCAAGGCCCA  
TTATTGCCCCCTTGCTCCCACTCCATGCTGCTTCTGGGTGGGACCTAAGATGGCTTGGGAGTTGTTGGGTTCCCTG

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**FIGURE 4879B**

CGATCAGAAGTCTACCCACACCTCCTCAGGAACTGCTGCCTCCCCCTAAGAATCTTCCTTGCCCTGGAGTAGG  
GGGCCAGAGCACTTTGATTTCAGCCATTTACTCCAAGTCCTCTCCCCAGCTACCACCAGTCCCTTACTCTGTTC  
TCCCCAGTGAAAAAGAGTCTGTTGATTTTCCTC



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**FIGURE 4880**

AGAGCCAGAGCAGGATGGAGAGGAGACGCATCACCTCCGCTGCTCGCCGCTCCTACGTCTCCTCAGGGGAGATGA  
TGGTGGGGGGCCTGGCTCCTGGCCGCCGTCTGGGTCTGGCACCCGCTCTCCCTGGCTCGAATGCCCCCTCCXA  
CTCCCGACCCGGGTGGATTCTCCCTGGCTGGGGCACTCAATGCTGGCTTCAAGGAGACCCGGGCCAGTGAGCGG  
GCAGAGATGATGGAGCTCAATGACCGCTTTGCCAGCTACATCGAGAAGGTTTCGCTTCTGGAACAGCAAAACAAG  
GCGCTGGCTGCTGAGCTGAACCAGCTGCGGGCCAAGGAGCCCCACCAAGCTGGCAGACGTCTACCAGGCTGAGCTG  
CGAGAGCTGCGGCTGCGGCTCGATCAACTACCGCCAACAGCGCCCGGCTGGAGGTTGAGAGGGACAATCTGGCA  
CAGGACCTGGCCACTGTGAGGCAGAAGCTCCAGGATGAAACCAACCTGAGGCTGGAAGCCGAGAACAACCTGGCT  
GCCTATAGACAGGAAGCAGATGAAGCCACCCTGGCCCGTCTGGATCTGGAGAGGAAGATTGAGTCGCTGGAGGAG  
GAGATCCGGTTCTTGAGGAAGATCCACGAGGAGGAGGTTGCGGAACCTCAGGAGCAGCTGGCCCGACAGCAGGTC  
CATGTGGAGCTTGACGTGGCCAAGCCAGACCTACCGCAGCCCTGAAAGAGATCCGCACGCAGTATGAGGCAATG  
GCGTCCAGCAACATGCATGAAGCCGAAGAGTGGTACCGCTCCAAGTTTGCAGACCTGACAGACGCTGCTGCCCCG  
AACCGCGAGCTGCTCCGCCAGGCCAAGCACGAAGCCAACGACTACCGGCGCCAGTTGCAGTCTTGACCTGCGAC  
CTGGAGTCTCTGCGCGGCACGAACGAGTCCCTGGAGAGGCAGATGCGCGAGCAGGAGGAGCGGCACGTGCGGGAG  
GCGGCCAGTTATCAGGAGGCGCTGGCGCGGCTGGAGGAAGAGGGGCAGAGCCTCAAGGACGAGATGGCCCGCCAC  
TTGCAGGAGTACCAGGACCTGCTCAATGTCAAGCTGGCCCTGGACATCGAGATCGCCACCTACAGGAAGCTGCTA  
GAGGGCGAGGAGAACCGGATCACCATTCCCGTGCAGACCTTCTCCAACCTGCAGATTGAGAAACCAGCCTGGAC  
ACCAAGTCTGTGTGAGAAGGCCACCTCAAGAGGAACATCGTGGTGAAGACCGTGGAGATGCGGGATGGAGAGGTC  
ATTAAGGAGTCCAAGCAGGAGCACAAAGGATGTGATGTGAGGCAGGACCCACCTGGTGGCTCTGCCCCGTCTCAT  
GAGGGGCCCCGAGCAGAAGCAGGATAGTTGCTCCGCTCTGCTGGCACATTTCCCCAGACCTGAGCTCCCCACCAC  
CCCAGCTGCTCCCCCTCCCTCCTCTGTCCCTAGGTCAGCTTGCTGCCCTAGGCTCCGTCACTATCAGGCCTGCCAG  
ACGGCACCCACCCAGCACCCAGCAACTCCAACCTAACAAGAACTCACCCCCAAGGGGCAGTCTGGAGGGGCATGG  
CCAGCAGCTTGCGTTAGAATGAGGAGGAAGGAGAGAAGGGGAGGAGGGCGGGGGGCACCTACTACATCGCCCTCC  
ACATCCCTGATTCTGTTGTTATGGAACTGTTGCCAGAGATGGAGGTTCTCTCGGAGTATCTGGGAACTGTGCC  
TTTGAGTTTCTCAGGCTGCTGGAGGAAAACCTGAGACTCAGACAGGAAAGGGAAGGCCCCACAGACAAGGTAGCC  
CTGGCCAGAGGCTTGTTTTGTCTTTTGGTTTTATGAGGTGGGATATCCCTATGCTGCCTAGGCTGACCTTGAAC  
TCCTGGGCTCAAGCAGTCTACCCACCTCAGCCTCCTGTGTAGCTGGGATTATAGATTGGAGCCACCATGCCAGC  
TCAGAGGGTTGTTCTCCTAGACTGACCCTGATCAGTCTAAGATGGGTGGGGACGTCTGCCACCTGGGGCAGTCA  
CCTGCCCAGATCCCAGAAGGACCTCCTGAGCGATGACTCAAGTGTCTCAGTCCACCTGAGCTGCCATCCAGGGAT  
GCCATCTGTGGGCACGCTGTGGGCAGGTGGGAGCTTGATTCTCAGCACTTGGGGGATCTGTTGTGTACGTGGAGA  
GGGATGAGGTGCTGGGAGGGATAGAGGGGGGCTGCCTGGCCCCCAGCTGTGGGTACAGAGAGGTCAAGCCCAGGA  
GGACTGCCCCGTGCAGACTGGAGGGGACGCTGGTAGAGATGGAGGAGGAGGCAATTGGGATGGCGCTAGGCATAC  
AAGTAGGGGTTGTGGGTGACCAGTTGCACTTGGCCTCTGGATTGTGGGAATTAAGGAAGTGACTCATCCTCTTGA  
AGATGCTGAAACAGGAGAGAAAGGGGATGTATCCATGGGGGCAGGGCATGACTTTGTCCCATTCTAAAGGCCTC  
TTCCTTGCTGTGTATACAGGCCGCCCCAGCCTCTGAGCCCCCTGGGACTGCTGCTTCTTAACCCCAAGTAAGCCA  
CTGCCACACGTCTGACCCTCTCCACCCATAGTGACCGGCTGCTTTTCCCTAAGCCAAGGGCCTCTTGCGGTCCC  
TTCTTACTCACACAAAAATGTACCCAGTATTCTAGGTAGTGCCCTATTTTACAATTGTAAAACCTGAGGCACGAG  
CAAAGTGAAGACACTGGCTCATATTCTGTCAGCCTGGAGGCCGGGTGCTCAGGGCTGACACGTCCACCCCAAGTGC  
ACCCACTCTGCTTTGACTGAGCAGACTGGTGAGCAGACTGGTGGGATCTGTGCCAGAGATGGGACTGGGAGGGC  
CCACTTCAGGGTTCTCCTCTCCCCTCTAAGGCCGAAGAAGGGTCTTCCCTCTCCCCAAGACTTGGTGTCTTTT  
CCTCCACTCCTTCTGCCACCTGCTGCTGCTGCTGCTAATCTTCAGGGCACTGCTGCTGCCTTTAGTCGCTG  
AGGAAAAATAAAGACAAATGCTGCGCCCTT

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**FIGURE 4881**

CCTCTCTCCGGGCCGTGCCTCCAAGATGACAAAGAAAAGAAGGAACAATGGGCGTGCCAAAAAGGGCCGCGGCCA  
CCTGCAACCTATTCGCTGCACTAACTGTGCCCCGATGCGTGCCCAAGGACAAGGCCATTAAGAAATTCGTCATTTCG  
AAACATAGTGGAGGCCGCAACAGTCAGGGACATTCTGAAGTGAGCGTCTTCGATGCCTATGTGCTTCCCAAAC  
GTATGTGAAGCTACATTACTGTGTGAGTTGTGCAATTACAGCAAAGTAGTCAGGAATCGATCTCGTGAAGCCCG  
CAAGGACCGAACACCCCCACCCCGATTTAGACCTGCGGGTGCTGCCCCAGGTCCCCACCAAAGCCCATGTAAGG  
AGCTGAGTTCTTAAAGACTGAAGACAGGCTATTCTCTGGAGAAAAATAAAATGGAAATTGTACTT

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**FIGURE 4882**

MTKKRRNNGRAKKGRGHLQPIRWTNCARCVPKDKGIKKFVIRNIVEAATVRDISEVSVFDAYVLPKLYVKLHYCV  
SCAIHSKVVRNRSREARKDRTPPPRFRPAGAAPGPPPKPM

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**FIGURE 4883A**

GGCACGAGGCTGCTCTCGCAACTCAAGATGGCGGACGAGAGTGAGACAGCAGTGAAGCCGCCGGCACCTCCGCTG  
CCGCAGATGATGGAAGGGAACGGGAACGGCCATGAGCACTGCAGCGATTGCGAGAATGAGGAGGACAACAGCTAC  
AACCGGGGTGGTTTGAGTCCAGCCAATGACACTGGAGCCAAAAAGAAGAAAAAGAAAAAGAAAGAA  
AAAGGCAGTGAGACAGATTGAGCTGTTCTCAGTGGGTGAGGGACCTGCCAAAACCATGGAGGAGGCTAGCAAGCGAAGC  
TACCAGTTCTGGGATACGCAGCCCCGTCCCCAAGCTGGGCGAAGTGGTGAACACCCATGGCCCCGTGGAGCCTGAC  
AAGGACAATATCCGCCAGGAGCCCTACACCCTGCCCCAGGGCTTCACCTGGGATGCTTTGGACTTGGGCGATCGT  
GGTGTGCTAAAAGAACTGTACACCCTCCTGAATGAGAATATGTGGAAGATGATGACAACATGTTCCGATTTGAT  
TATTCCCCGGAGTTTCTTTTGTGGGCTCTCCGGCCACCCGGCTGGCTCCCCCAGTGGCACTGTGGGGTTCGAGTG  
GTCTCAAGTCGGAAATTGGTTGGGTTTCATTAGCGCCATCCAGCAAAACATCCATATCTATGACACAGAGAAGAAG  
ATGGTAGAGATCAACTTCCTGTGTGTCCACAAGAAGCTGCGTTCCAAGAGGGTGTCTCCAGTTCTGATCCGAGAG  
ATCACCAGGCGGGTTCACCTGGAGGGCATCTTCCAAGCAGTTTACACTGCCGGGGTGGTACTACCAAAGCCCCGT  
GGCACCCTGCAGGTATTGGCATCGGTCCCTAAACCCACGGAAGCTGATTGAAGTGAAGTTCTCCACCTGAGCAGA  
AATATGACCATGCAGCGCACCATGAAGCTCTACCGACTGCCAGAGACTCCCAAGACAGCTGGGCTGCGACCAATG  
GAAACAAAGGACATTCCAGTAGTGCACAGCTCCTCACCAGGTACTTGAAGCAATTTACCTTACGCCCGTCATG  
AGCCAGGAGGAGGTGGAGCACTGGTTCTACCCCCAGGAGAATATCATCGACACTTTCGTGGTGGAGAACGCAAAC  
GGAGAGGTGACAGATTCTCTGAGCTTTTATACGCTGCCCTCCACCATCATGAACCATCCAACCCACAAGAGTCTC  
AAAGCTGCTTATTCTTTCTACAACGTTACACCCAGACCCCTCTTCTAGACCTCATGAGCGACGCCCTTGTCCTC  
GCCAAAATGAAAGGGTTTGATGTGTTCAATGCACTGGATCTCATGGAGAACAAAACCTTCCTGGAGAAGCTCAAG  
TTTGGCATAGGGGACGGCAACCTGCAGTATTACCTTTACAATTGGAAATGCCCCAGCATGGGGGCGAGAGAAGGTT  
GGACTGGTGTCTACAATAACAGTCAACAGTGCGATTCTGGATAAAGCCACTGAAAATTCGAACCAGGAAATGGAA  
CCCCACCACTGTTGGTCCAATTTTACACACGTCGAGAATCCCTGGCAAAGGGAGCAGAACTGAACCGGCTTTACC  
AAACCGCCAGCGAACTTGACAATTGTATTGCGATGGCGTGGGCTGCGTGACGTCACCTCCGGTCTGTCTCTGGT  
CTCCGTGTTTTCCAGTTAATTACATCCTCATGCAGCCGTGATCAAGGGAATGTAAGTCTGAAAACCTAGCTCGTG  
ATTGGCATATAATGGAGTTAACGGGTGAATAATAAAGTATATATATATATATATATATATAAATATTTAAAT  
ATCTTTCATGTTCCAAATGTACAAGGATGTTTGGTCTTTAATGAAAAGCTGAATCTAGATCATTCTCAGAATGA  
GGACCCGAGGACAGTGGCAGACAGACGCGTTGGCACAGTTCATGGTTTTCTCCAGAGGAGACATTGGCTTATCAT  
GGGGAAAAAGAGGATCTGGAGAACCTCATCCAGCTCCCCTTCTGAATCAGCTGGGATGACTGGCTTTGAGAAGGA  
AGGGAAGATGGAACAGGCTCAGATCTCATGGGATAGCACGTGGAGCTCTTGGCTGGGGCTGACCCTGGGCAGGGA  
CTTTCCTGCAGGGCCAGACCTGCCTGCATTCTGAGACAAAGCAATGGACGGTCCGCAGAAGCAGACCTCATTGAT  
TGAGTCCTTTCTTCCATCCCCCTTGGCCTGCTCCCTGTAGGAAGTCATCCTGCCAACTGATTTAAAGGGCTCTTT  
AGCCAGTTGTTGCCAACCTTATAGGGATGAGTCCCCTGTGAGATTTTGCTTTTCCACTGCCTGGGATGATGCAGT  
TTGAAGAGGCCCTTGGACCTCCTTGTAACATCAGGGACCTTTGGAGACCATTATCAGTGTAAGCCCTGCTTAGCT  
CATCTTAGAGCAAAGAGCCAGCACCCCTGATGTCCCTGGGGTGGCTAGGCAGGAGTGGCGTGGGGCCAATACCCAG  
ACCCCTTCAGCCACCAGCCCCCTGGCCTGTGCCTTCCAACCCATTAGCCATTTCTTGTTGTGCCCTTTCCAAGAT  
ACAGCCTGCAAGTGGTAGCAAGAAGTGATTAGAGGCAGATCTGGACTTGGCAACAGAAGTGGTTTCCCATCTCCA  
TTGTCTGAGTCTGATTTTTCGTGATGCTGTTTTGTGGATTTTTGTGGTAGTGATGGTTGTGAGTGCTGCCAGTTT  
CCCAAAACGTAATCAAGCCTCTGGTCACATGGCTGTGATGTAGGCATTCTGGAGTGGTGTTCAGCCAAGTGACC  
GGGCAAAATTGGGCTGTGAAATTGTACTTCCAGGCTTGGATGTAATTTTGTCTCTAGAGAGAAGCAAGTGGTGGG  
AAGGAGGTAGCATGACGTGTGGTGTGCGGGTTTCTTGTGCGCTCACCTCTCCGCTCATAACAGGAATGAAGCCT  
TAGCCAGGAGGCCAGGCTCAGCCCTGTGCCACTCACCGAAGCCACTTCTACAGGCCAGCAGGGGCTTGTGTCAG  
GCTGTGGGTTTTGGTGTGGTTTTGTGAGGCTAATTCTGCAGAGTTTCCAAAACCAGAAGACATCGTATGCTTGG  
GATGGGGGCGTGCCACCCGTGGGAATGCTGCCCGCTCTGCAGACTGCTGCTAGAGCCAGCAACTCCACTAAGGT  
GGATTTTCATCAGGGGCTGCAGGGCCCTCCCTTTTCCCATTTGTTCTGCGCTGCAAATTGCAGGCCCCAGCAAT  
CGTGACTGACGTTTGTCTCTTGTACTCCAAGAACTGAGACCAAAGAAGCTGCTGTTCTTAGCAAGATGCGCACTG  
CATTCCACAGGTGGGAGGAGTCGGAGAGGCAGGGGCTTGTCTTGCAGCCCCACAGACAACAGTTGCACAGTGCCCT  
CAAGCCCCAGAGTGGCTCACCTGTCCAGACCTTTGAGGATATCAAAGGACAAAGTGCCCAAGTCTTTCTACCT  
TGGGGGAACCTGGAACCTTGAAAGGCTCCCTGTCTTAGTCTGTTCTGGGCCAGGTCCCAGCTTGAGCTG

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**FIGURE 4883B**

CCTCTGAGATTTGGGCTGTGCGGATCTCTGGAGTGAGCTCTGTTTCGGTTGACCCAGGTCATGGAATGGAAACGG  
TGAGGCCCCAGTGCGCTGTTCTGGAAGAAACAGATCTCCTGGCAAAGGCCCCAGCATCTCCCTCACTGAAACCAGG  
TGGCCGGCTCCTCGGACTCTGCTTTATGTTGCGGTGAGAACTCTGCCAGGTGTGCAGGGTTTGGCTTGTGGGCT  
GCTTGCTGCTCATCTGATTTTGTCCCAGTAGTCCCTGCGTTCTTCATTCAACCCCTTCTGGGACTTCAGCTCAG  
AGAGCACCATCCCGGGGGTCAGGGCCTCCCCACAGGAGCCCTGCAGTGTGGTAGCGCCATGGCTGTCTCAAACCA  
AGCAAAGGAAGGACCCTGAGGCCTTCACGCTAACCATCCTCGAGCAACTGCTGTTGGAAGGCCTCCCTGGGCCTG  
GCCCCACCCTCTGCCACCCAGTCCTCCAGCTGCCATGTTTCAAAGACGACCTTTACCTCCTGCCTTTGGATTG  
ACTCTGCATTTGACCACGGACTCCAGTCTGTGTGTAGGGAGAGAGCTGAGTAGGAGGCCTCCACTCCGGATCGAG  
GCCTGTATAGGGCTCGTTTCCCCACACATGCCTATTTCTGAAGAGGCTTCTGTCTTATTTGAAGGCCAGCCACA  
CCCAGCTACTTTAACACCAGGTTTATGGAAAATGTCAGGCCTTCCCCACAACCTCCTGTCTAACTGCTGTGCCCC  
CCTACTTGCTGGCTCTCAGAAGCCTAGGGGAGTCCCTGTGGTCCTGAATTCTTTCCCCAAAGACGACCAGCATTT  
AACCAACCTAAGGGCCCCAAAGGCCTTGGACAACCTGCATGGAGCTGCACTCTAGGAGAAGGAGGGGAACCAGATGT  
TAGATCAGGGGAGGGAGCAGGAGTGTCCCTCCCGTCAGTGCCTACCCACCTGTGAGGCAGCCTTCTGATGGCCTG  
GCCCACCTTCCCCAGAACCAGGGGAGGCCTGAGGCTTCAGTTTTACTCTGCTGCAAAATGAAGGCGGGCCTGCAA  
GCCGACTACACCTACGGAGGCTGTTGAGGACAATTTCAATCCATTAAATTAAAAAATACTGACTGGCTGGCAGGC  
AGGTGCCATGTCTGGGAACAGGGACGGGGGAGCTTCACCTTTTTGTCTTGGCTTTTCTTTGGGCTGTGGGGGGGC  
ATCCATTTCCAGGGTCGGGGAGGAAATACCAAATGCATTGTTGTTCTGCTCAATACATCTCACTTGTTCATAA  
AAGAAAGCAGCTGAACAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4884**

MADESETAVKPPAPFLPQMMEGNGNGHEHCSDCENEEDNSYNRGGLSPANDTGAKKKKKKQKKKKEKGSETDSAQ  
DQPVKMNSLPAERIQEIQKAIELFSVGQGPAKTMEEASKRSYQFWDTPQVPKLGEVVNTHGPVEPKDNIRQEPY  
TLPQGFTWDALDLGDRGVLKELYTLLNENYVEDDDNMFRFDYSPEFLLWALRPPGWLPPQWHCGVRVSSRKLVGF  
ISAIPANIHIYDTEKKMVEINFLCVHKKLRSKRVPVLIREITRRVHLEGIFQAVYTAGVVLPKPVGTCTRYWHR  
LNPRKLIEVKFSHLSRNMQMRTMKLYRLPETPKTAGLRPMETKDIPVVHQLLTRYLKQFHLPVMSQEEVEHWF  
YPQENIIDTFVVENANGEVTDFLSFYTLPTSTIMNHPHKSLSKAAYSFYNVHTQTPLLDLMSDALVLAKMKGFDVF  
NALDLMENKTFLEKLKFGIGDGNLQYYLYNWKCPSMGAEKVGLVLQ

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**FIGURE 4885**

TTCGCTCGCCGCTCGCTCAGAGCCGGGGCCGGGCCAGAGCGGCGCCCCGCTGCCCTGTCCCCGCGTGCAGACCC  
CGGGCCCCGGCCCCGGCCCCCGCCAAGCCATGCTGTGCGGCCGCTGGAGGCGTTGCCGCCGCCCGCCCCGAGGAGC  
CCCCGGTGGCCGCCCAGGTGCGAGCCCAAGTCGCGGGCGCCGGTTCGCTCTCCCGTCCCCGCCGACTCCCTCCGATG  
GCGGCACCAAGAGGCCCGGGCTGCGGGCGCTGAAGAAGATGGGCCTGACGGAGGACGAGGACGTGCGCGCCATGC  
TGGGGGGCTCCCGGCTCCGCAAGATCCGCTCGCGCACGTGGCACAAGGAGCGGCTGTACCGGCTGCAGGAGGACG  
GCCTGAGCGTGTGGTTCCAGCGGCGCATCCCGCGTGGCCATCGCAGCACATCTTCTTCGTGCAGCACATCGAGG  
CGGTCCGCGAGGGCCACCAGTCCGAGGGCCTGCGGCGCTTCGGGGGTGCCTTCGCGCCAGCGCGCTGCCTCACCA  
TCGCTTCAAGGGCCGCCGCAAGAACCTGGACCTGGCGGCGCCACGGCTGAGGAAGCGCAGCGCTGGGTGCGCG  
GTCTGACCAAGCTCCGCGCGCGCCTGGACGCCATGAGCCAGCGCGAGCGGCTAGACCACTGGATCCACTCCTATC  
TGCACCGGGCTGACTCCAACCAGGACAGCAAGATGAGCTTCAAGGAGATCAAGAGCCTGCTGAGAATGGTCAACG  
TGGACATGAACGACATGTACGCCTACCTCCTCTTCAAGGAGTGTGACCACTCCAACAACGACCGTCTAGAGGGGG  
CTGAGATCGAGGAGTTCTTGC GGCGGCTGCTGAAGCGGCCGGAGCTGGAGGAGATCTTCCATCAGTACTCGGGCG  
AGGACCGCGTGTGAGTGCCCCCTGAGCTGCTGGAGTTCTTGGAGGACCAGGGCGAGGAGGGCGCCACACTGGCCC  
GCGCCAGCAGCTCATTAGACCTATGAGCTCAACGAGACAGCCAAGCAGCATGAGCTGATGACACTGGATGGCT  
TCAIGATGTACCTGTTGTGCGCGGAGGGGGCTGCCTTGGACAACACCCACACGTGTGTGTTCCAGGACATGAACC  
AGCCCCCTTGCCCACTACTTTCATCTCTTCTCCCAACACCTATCTGACTGACTCCCAGATCGGGGGGGCCAGCA  
GCACCGAGGCCTATGTTAGGGCCTTTGCCAGGGATGCCGCTGCGTGGAGCTGGACTGCTGGGAGGGGGCCAGGAG  
GGGAGCCCGTCATCTATCATGGCCATACCCTCACCTCCAAGATTCTCTTCCGGGACGTGGTCCAAGCCGTGCGCG  
ACCATGCCTTACGCTGTCCCCTTACCCTGTCTATCCTATCCCTGGAGAACCCTGCGGGCTGGAGCAGCAGGCTG  
CCATGGCCCCGCCACCTCTGCACCATCCTGGGGGACATGCTGGTGACACAGGCGCTGGACTCCCCAAATCCCGAGG  
AGCTGCCATCCCCAGAGCAGCTGAAGGGCCGGGTCTTGGTGAAGGGAAGAAGTTGCCCGCTGCTCGGAGCGAGG  
ATGGCCGGGCTCTGTGCGATCGGGAGGAGGAGGAGGATGACGAGGAGGAAGAAGAGGAGGTGGAGGCTGCAG  
CGCAGAGGCGGCTGGCCAAGCAGATCTCCCCGGAGCTGTGCGCCCTGGCTGTGTACTGCCACGCCACCCGCCTGC  
GGACCCTGCACCCTGCCCCCAACGCCCCACAACCCTGCCAGGTGAGCTCCCTCAGCGAGCGCAAAGCCAAGAAAC  
TCATTGGGAGGCAGGGAACAGCTTTGTCAGGCACAATGCCCGCCAGCTGACCCGCGTGTACCCGCTGGGGCTGC  
GGATGAACTCAGCCAACTACAGTCCCCAGGAGATGTGGAACCTCGGGCTGTCAGCTGGTGGCCTTGAACCTCAGA  
CGCCAGGCTACGAGATGGACCTCAATGCCGGGCGCTTCTAGTCAATGGGCAGTGTGGCTACGTCTTAAACCTG  
CCTGCCTGCGGCAACCTGACTCGACCTTTGACCCCGAGTACCCAGGACCTCCAGAACCACTCTCAGCATCCAGG  
TGCTGACTGCACAGCAGCTGCCCAAGCTGAATGCCGAGAAGCCACACTCCATTGTGGACCCCTGGTGCGCATTG  
AGATCCATGGGGTGCCCGCAGACTGTGCCCGGCAGGAGACTGACTACGTGCTCAACAATGGCTTCAACCCCGCT  
GGGGGCAGACCCTGCAGTTCCAGCTGCGGGCTCCGGAGCTGGCACTGGTCCGGTTTGTGGTGGAAGATTATGACG  
CCACCTCCCCCAATGACTTTGTGGGCCAGTTTACACTGCCTCTTAGCAGCCTAAAGCAAGGGTACCGCCACATAC  
ACCTGCTTTCCAAGGACGGGGCCTCACTGTCACCAGCCACGCTCTTCATCCAAATCCGCATCCAGCGCTCTTGAG  
TAGCTGGGACTACAGGCACAGGCCACCACACCTGGCTAATGTTTAAATTTTATGTAGAGATGGCGGGGGGGCGG  
GGGTCTCCCTATGCTGCCAGGCTGGTCTCGAGCTCCTGACCTCAAGTGATCCTCCTGCCCGAGCATTCCAAAGT  
GCTGGGATTACAGGTGTGAGCCACTGCCTGGCCTGGCCGTAGGTTTGTAACTGTTTCATAGAAGAGCCCTGGAGA  
AGACAGTAGAATGAGCCTATCTAGTTTAAAAAATAAAGAAGCACGTTGATTTCAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4886**

MLCGRWRRRCRRPPEEPPVAAQVAAQVAAPVALPSPPTPSDGGTKRPGLRALKKMGLTEDEDVRAMLRGSRRLRKIR  
SRTWHKERLYRLQEDGLSVWFQRRIPRAPSQHIFVQHIQAVREGHQSEGLRRFGGAFAPARCLTIAFKGRRKNI  
DLAAPTAEAAQRWVRGLTKLRARLDAMSQRERLDHWIHSYLHRADSNQDSKMSFKEIKSLLRMVNVDMNDMYAYL  
LFKECDHSNNDRLEGAEIEEFLRRLKRPLEEIFHQYSGEDRVLSAPELLEFLEDQGEEGATLARAQQLIQTYE  
LNETAKQHELMTLDGFMYYLLSPEGAALDNTHTCVFDQMNQPLAHYFISSSHNTYLTDSQIGGPSSTEAYVRAFA  
QGCRCVELDCWEGPGGEPVIYHGHTLTSTKILFRDQVQAVRDHAFTLSPYPVILSLENHCGLEQQAAMARHLCTIL  
GDMLVTQALDSPNPEELPSPEQLKGRVLVKGKKLPAARSEDGRALSDREEEEDDEEEEEEVEAAAQRRLAKQIS  
PELSALAVYCHATRLRTLHPAPNAPQPCQVSSLSEKAKKLIREAGNSFVRHNARQLTRVYPLGLRMNSANYSPQ  
EMWNSGCQLVALNFQTPGYEMDLNAGRFLVNGQCGYVLKPAQLRQPDSTFDPEYPPRTTLSIQVLTAQQLPKL  
NAEKPHSIVDPLVRIEIHGVPADCARQETDYVLNNGFNPRWGQTLQFQLRAPELALVRFVVEDYDATSPNDFVGQ  
FTLPLSSLKQGYRHHLLSKDGASLSPATLFIQIRIQRS



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**FIGURE 4887**

CGGCCACGAGGCGGAATCCCTTCTGCTCTCCCAGCGCAGCGCCGCCCGCCCGCCCTCCAGCTTCCCGGACCATG

GCCAACCTGGAGCGCACCTTCATCGCCATCAAGCCGGACGGCGTGCAGCGCGGCCTGGTGGGCGAGATCATCAAG  
CGCTTCGAGCAGAAGGGATTCCGCCTCGTGGCCATGAAGTTCCTCCGGGCCTCTGAAGAACACCTGAAGCAGCAC  
TACATTGACCTGAAAGACCGACCATTCTTCCCTGGGCTGGTGAAGTACATGAACTCAGGGCCGGTTGTGGCCATG  
GTCTGGGAGGGGCTGAACGTGGTGAAGACAGGCCGAGTGATGCTTGGGGAGACCAATCCAGCAGATTCAAAGCCA  
GGCACCATTCTGTTGGGACTTCTGCATTTCAGGTTGGCAGGAACATCATTTCATGGCAGTGATTTCAGTAAAAAGTGCT  
GAAAAAGAAATCAGCCTATGGTTTAAGCCTGAAGAACTGGTTGACTACAAGTCTTGTGCTCATGACTGGGTCTAT  
GAATTAAGAGGTGGACACAACAGCAGTCTCCTTCAGCACGGCGTGGTGTGTCCCTGGACACAGCTCTTCATTCCAT  
TGACTTAGAGGCAACAGGATTGATCATTCTTTTATAGAGCATATTTGCCAATAAAGCTTTTGGAAGCCGG

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**FIGURE 4888**

MANLERTFIAIKPDGVQRGLVGEIIKRFEQKGFRVAMKFLRASEEHLKQHYIDLKDRPFFPGLVKYMNSGPVVA  
MVWEGLNVVKTGRVMLGETNPADSKPGTIRGDFCIQVGRNIIHGSDSVKSAEKEISLWFKPEELVDYKSCAHDWV  
YE

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**FIGURE 4889**

TGCTGCGAACCACGTGGGTCCCGGGCGCGTTTCGGGTGCTGGCGGCTGCAGCCGGAGTTCAAACCTAAGCAGCTG  
GAAGGAACCATGGCCAACTGTGAGCGTACCTTCATTGCGATCAAACCAGATGGGGTCCAGCGGGGTCTTGTGGGA  
GAGATTATCAAGCGTTTTGAGCAGAAAGGATTCCGCCTTGTTGGTCTGAAATTCATGCAAGCTTCCGAAGATCTT  
CTCAAGGAACACTACGTTGACCTGAAGGACCGTCCATTCTTTGCCGGCCTGGTGAAATACATGCACTCAGGGCCG  
GTAGTTGCCATGGTCTGGGAGGGGGCTGAATGTGGTGAAGACGGGCCGAGTCATGCTCGGGGAGACCAACCCTGCA  
GACTCCAAGCCTGGGACCATCCGTGGAGACTTCTGCATACAAGTTGGCAGGAACATTATACATGGCAGTGATTCT  
GTGGAGAGTGCAGAGAAGGAGATCGGCTTGTGGTTTCACCCTGAGGAACCTGGTAGATTACACGAGCTGTGCTCAG  
AACTGGATCTATGAATTGACAGGAGGGGCAGACCACATTGCTTTTCACATCCATTTCCCTCCTTCCCATGGGCAGA  
GGACCAGGCTGTAGGAAATCTAGTTATTTACAGGAACCTTCATCATAATTGGAGGGAAGCTCTTGGAGCTGTGAG  
TTCTCCCTGTACAGTGTTACCATCCCCGACCATCTGATTAAAATGCTTCCTCCCAGC

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**FIGURE 4890**

MANCERTFIAIKPDGVQRGLVGEIIKRFEQKGFRLVGLKFMQASEDLLKEHYVDLKDRPFFAGLVKYMHS GPVVA  
MVWEGLVNVVKTGRVMLGETNPADSKPGTIRGDFCIQVGRNIIHGSDSVESAEKEIGLWFHPEELVDYTSCAQNW  
YE

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**FIGURE 4891**

GACAACTTGAGCTGAAAGCGAAAACTATGCTGACCAGATTAGCAGACTTGAAGAAAGAGAAGCAGAACTGAAGA  
AGGAATATAATGCATTACATCAAAGACACACTGAGATGATCCATAATTATATGGAACATTTAGAAAGAACAAAAC  
TTCATCAGCTCTCAGGGAGTGATCAACTAGAAATCCACAGCTCATAGTAGAATTAGAAAAGAACGCCCTATATCAT  
TAGGAATTTTCCCATTACCTGCTGGAGATGGATTGCTTACACCTGATGCTCAGAAAGGAGGAGAGACCCCTGGAT  
CTGAGCAATGGAATTTTCAAGGAATTAAGTCAACCACGTTCTCATACCAGCCTGAAGGATGAGCTTTCTGATGTTA  
GCCAAGGCGGATCTAAAGCTACCACTCCAGCATCAACAGCTAATTGAGATGTGGCAACAATTCCTACTGATACTC  
CCTTAAAGGAAGAAAACGAAGGATTTGTGAAGGTTACAGATGCGCCAAATAAATCAGAGATAAGCAAACACATTG  
AAGTACAGGTAGCCCAGGAACTAGAAATGTATCTACTGGCTCTGCTGAAAATGAAGAAAAGTCAGAAGTTCAAG  
CAATCATCGAATCTACTCCTGAGCTGGATATGGACAAAGATCTCAGTGGATATAAAGGTTCAAGCACTCCACCA  
AAGGCATAGAGAACAAAGCTTTTGATCGCAATACAGAATCTCTCTTTGAAGAACTGTCTTCAGCTGGCTCAGGCC  
TAATAGGAGATGTGGATGAAGGAGCAGATTTACTAGGAATGGGTGCGGAAGTTGAGAATCTTATATTAGAAAATA  
CACAACCTGTTGGAAACCAAAAATGCTTTGAACATAGTGAAGAATGATTTGATAGCAAAAGTGGATGAACTGACCT  
GTGAGAAAGATGTGCTGCAAGGGGAATTGGAGGCTGTGAAGCAAGCCAACTGAACTAGAGGAAAAGAACAGAG  
AATTGGAGGAAGAGCTTAGGAAAGCTCGGGCAGAAGCTGAAGATGCAAGGCAAAAAGCAAAAGATGACGATGATA  
GTGATATTCCCACAGCCCAGAGGAAACGGTTTACTAGAGTAGAAATGGCCCGTGTTCTCATGGAGCGAAAACAGT  
ATAAGAGAGATTGATGGAGCTTCAGGAAGCTGTTGATGGACAGAGATGATTCGGGCATCACGAGAAAATCCAG  
CCATGCAGGAAAAAAAAGGTCAAGCATTGGCAGTTTTTCAGCCGACTTTTCAGCTCCTCAAGTAACACGACTA  
AGAAGCCTGAACCACCTGTTAATCTGAAGTACAATGCACCCACGTCCTCATGTTACTCCGTCCGTCAAGAAAAGAA  
GCAGCACCTTATCTCAGCTCCCTGGGGATAAGTCCAAAGCCTTTGATTTTCCTTAGTGAAGAAAAGTGAAGCTAGTT  
TAGCCTCACGCAGAGAACAAAAGAGAGAGCAGTATCGTCAGGTAAAAGCACATGTTTCAGAAGGAAGACGGTAGAG  
TGCAGGCTTTTGGCTGGAGTCTGCCTCAGAAGTACAAACAGGTAACCAATGGTCAAGGTGAAAATAAGATGAAAA  
ATTTACCTGTGCCTGTCTATCTCAGACCTCTGGATAAAAAAGATACATCAATGAAGCTGTGGTGTGCTGTTGGAG  
TCAATTTATCTGGTGGGAAGACCAGAGATGGTGGTTCTGTTGTTGGAGCAAGTGATTTTTACAAGGATGTTGCTG  
GTTTGGATACAGAAGGCAGTAAACAGCGAAGTGCCTCTCAGAGTAGTTTAGATAAGTTAGATCAGGAACCTAAGG  
AACAGCAGAAGGAGTTAAAAAATCAAGAAGAATTATCCAGTCTAGTTTGGATCTGTACCAGCACTCATTCGGCTA  
CAAAAGTTCTTATTATTGATGCTGTTCAACCTGGCAACATCCTAGACAGTTTCACTGTTTGCAACTCTCATGTTT  
TGTGCATTGCAAGTGTGCCAGGTGCACGAGAAACAGACTACCTGTCAGGAGAAGATCTTTCAGAATCTGGTCAGG  
TAGACAAAGCATCTTTATGTGGAAGTATGACAAGCAACAGCTCAGCAGAGACAGACAGCCTGTTAGGAGGCATCA  
CAGTGGTTGGTTGTTCTGCAGAAGGTGTGACGGGAGCTGCCACTTCCCCTAGTACAAATGGTGCTTCTCCAGTGA  
TGGATAAACCACCAGAAATGGAAGCAGAAAATAGTGAGGTTGATGAAAATGTTCCAACAGCAGAAGAAGCAACTG  
AAGCTACAGAAGGGAATGCGGGGTCAGCTGAAGACACAGTGGACATCTCCCAAAGTGGCGTCTACACAGAGCATG  
TCTTTACAGATCCTTTGGGAGTTCAGATCCCAGAAGACCTCTCCCAAGTGTATCAGTCGAGGTATAATAATGGGT  
CATCAACTTAGGCAACTGGGTGAAGTGCACAAATAAAGGAACCAAAATAATCTCAAACAGTCAAAAGATTTCCA  
CTAATTAGTGTCACTGTGGTGGATTAAAGATACCTATTCTTGTGATA

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**FIGURE 4892**

MIHNYMEHLERTKLHQLSGSDQLESTAHSRIRKERPISLGIFPLPAGDGLLTPDAQKGGETPGSEQWKFQELSOP  
RSHTSLKDELSQGGSKATTPASTANSVDATIPDTPLKEENEGFVKVTDAPNKSEISKHIEVQVAQETRNV  
TGAENEKSEVQAI IESTPELMDMDKDLGKGSSTPTKGIENKAFDRNTESLFEELSSAGSLIGDVDEGADLL  
GMGREVENLILENTQLLETKNALNIVKNDLIAKVDELTCEDVLQGELEAVKQAKLKLEKNRELEEEELRKARAE  
AEDARQKAKDDDDSDIPTAQKRFRTRVEMARVLMERNQYKERLMELQEAVRWTE MIRASREN PAMQEKKRSSIWQ  
FFSRLFSSSSNTTKKPEPPVNLKYNAPTSHVTPSVKKRSSTLSQLPGDKSKAFDFLSEETEASLASRREQKREQY  
RQVKAHVQKEDGRVQAFGWSLPQKYKQVTNGQGENKMKNLFPVPVYLRPLDKKDTSMKLWCAVGVNLSGGKTRDGG  
SVVGASVFYKDVAGLDEGSKQRSASQSSLDKLDQELKEQQKELKNQEELSSLVWICTSTHSATKVLIIDAVQPG  
NILDSTVCNSHVLCIASVPGARETDYPAGEDLSESGQVDKASLCGSMTSNSSAETDSSLGGITVVGCSAEGVTG  
AATSPSTNGASPVMDKPPPEMEAENSEVDENVPTAEAEATEATEGNAGSAEDTVDISQTG VYTEHVFTDPLGVQIPE  
DLSPVYQSRYNNGSST

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**FIGURE 4893A**

CTCCGGCGCCCGCTCTGCCCGCCGCTGGGTCCGACCGCGCTCGCCTTCCTTGACGCCGCGCCTCGGCCCCATGGA  
CGCCCTGTGCGGTTCCGGGGAGCTCGGCTCCAAGTTCTGGGACTCCAACCTGTCTGTGCACACAGAAAACCCGGA  
CCTCACTCCCTGCTTCCAGAACTCCCTGCTGGCCTGGGTGCCCTGCATCTACCTGTGGGTGCGCCTGCCCTGCTA  
CTTGCTCTACCTGCGGCACCAATTGTCTGGCTACATCATCCTCTCCACCTGTCCAAGCTCAAGATGGTCCTGGG  
TGCTCTGCTGTGGTGCGTCTCCTGGGCGGACCTTTTTTACTCCTTCCATGGCCTGGTCCATGGCCGGGCCCCCTGC  
CCCTGTTTTCTTTGTACCCCCCTTGGTGGTGGGGGTACCATGCTGCTGGCCACCCTGCTGATACAGTATGAGCG  
GCTGCAGGGCGTACAGTCTTCGGGGGTCTCATTATCTTCTGGTTCTGTGTGTGGTCTGCGCCATCGTCCCATT  
CCGCTCCAAGATCCTTTTAGCCAAGGCAGAGGGTGAGATCTCAGACCCCTTCCGCTTCACCACCTTCTACATCCA  
CTTTGCCCTGGTACTCTCTGCCCTCATCTTGGCCTGCTTCAGGGAGAAACCTCCATTTTTCTCCGCAAAGAATGT  
CGACCCTAACCCCTACCCTGAGACCAGCGCTGGCTTTCTCTCCCGCCTGTTTTCTGGTGGTTTACAAAGCTGCT  
AAACCCTGACCCTCTGCGGGGTGCTGCGGGGCTTACCTCCCCCAGGATGGCCATCTATGGCTACCGGCATC  
CCCTGGAGGAGAAGGACCTCTGGTCCCTAAAGGAAGAGGACAGATCCCAGATGGTGGTGCAGCAGCTGCTGGAGG  
CATGGAGGAAGCAGGAAAAGCAGACGGCAGACACAAGGCTTCAGCAGCACCTGGGAAAAATGCCTCCGGCGAGG  
ACGAGGTGCTGCTGGGTGCCCCGGCCAGGCCCGGAAGCCCTCCTTCTGAAGGCCCTGCTGGCCACCTTCGGCT  
CCAGCTTCTCATCAGTGCCTGCTTCAAGCTTATCCAGGACCTGCTCTCCTTCATCAATCCACAGCTGCTCAGCA  
TCCTGATCAGGTTTATCTCCAACCCCATGGCCCCCTCCTGGTGGGGCTTCTGGTGGCTGGGCTGATGTTCTGT  
GCTCCATGATGCAGTCGCTGATCTTACAACACTATTACCACTACATCTTTGTGACTGGGGTGAAGTTTCGTACTG  
GGATCATGGGTGTCTATCTACAGGAAGGCTCTGGTTATCACCAACTCAGTCAAACGTGCGTCCACTGTGGGGGAAA  
TTGTCAACCTCATGTCAGTGGATGCCAGCGCTTCATGGACCTTGCCCCCTTCTCAATCTGCTGTGGTCAGCAC  
CCCTGCAGATCATCTGGCGATCTACTTCTTGGCAGAACCTAGGTCCCTCTGTCTGGCTGGAGTCGCTTTCA  
TGGTCTTGCTGATTCCACTCAACGGAGCTGTGGCCGTGAAGATGCGCGCCTTCCAGGTAAAGCAAATGAAATTGA  
AGGACTCGCGCATCAAGCTGATGAGTGAATCCTGGACGGCATCAAGGTGCTGAAGCTGTACGCCTGGGAGCCCA  
GCTTCTTGAAGCAGGTGGAGGGCATCAGGCAGGGTGAGCCCCAGCTGCTGCGCACGGCGGCCTACCTCCACACCA  
CAACCACCTTACCTGGATGTGACGCCCTTCTGGTGACCCTGATCACCTCTGGGTGTACGTGTACGTGGACC  
CAAACAATGTGCTGGACGCCGAGAAGGCCCTTGTGTCTGTGTCTTGTTTAATATCTTAAGACTTCCCCCTCAACA  
TGCTGCCCCAGTTAATCAGCAACCTGACTCAGGCCAGTGTGTCTCTGAAACGGATCCAGCAATTCTGAGCCAAG  
AGGAACTTGACCCCCAGAGTGTGGAAAGAAAGACCATCTCCCCAGGCTATGCCATCACCATACAGTGGCACCT  
TCACCTGGGCCCAGGACCTGCCCCCACTCTGCACAGCCTAGACATCCAGGTCCCGAAAGGGGCACTGGTGGCCG  
TGGTGGGGCCTGTGGGCTGTGGGAAGTCTCCCTGGTGTCTGCCCTGCTGGGAGAGATGGAGAAGCTAGAAGGCA  
AAGTGCACATGAAGGGCTCCGTGGCCTATGTGCCCCAGCAGGCATGGATCCAGAACTGCACTCTTCAGGAAAACG  
TGCTTTTCGGCAAAGCCCTGAACCCCAAGCGCTACCAGCAGACTCTGGAGGCCTGTGCCTTGCTAGCTGACCTGG  
AGATGCTGCCTGGTGGGGATCAGACAGAGATTGGAGAGAAGGGCATTAACTGTCTGGGGGCCAGCGGCAGCGGG  
TCAGTCTGGCTCGAGCTGTTTACAGTATGATGCCGATATTTTCTTGTGCTGATGACCCACTGTCCGCGGTGGACTCTC  
ATGTGGCCAAGCACATCTTTGACCACGTATCGGGCCAGAAAGGCGTGTGGCAGGCAAGACGCGAGTGTGGTGA  
CGCACGGCATTAGCTTCTGCCCCAGACAGACTTCATCATTGTGCTAGCTGATGGACAGGTGTCTGAGATGGGCC  
CGTACCCAGCCCTGCTGCAGCGCAACGGCTCCTTTGCCAACTTTCTCTGCAACTATGCCCCCGATGAGGACCAAG  
GGCACCTGGAGGACAGCTGGACCGCGTTGGAAGGTGCAGAGGATAAGGAGGCACTGCTGATTGAAGACACACTCA  
GCAACCACACGGATCTGACAGACAATGATCCAGTCACCTATGTGGTCCAGAAGCAGTTTATGAGACAGCTGAGTG  
CCCTGTCTCAGATGGGGAGGGACAGGGTCCGGCCTGTACCCCGGAGGCACCTGGGTCCATCAGAGAAGGTGCAGG  
TGACAGAGGCGAAGGCAGATGGGGCACTGACCCAGGAGGAGAAAGCAGCCATTGGCACTGTGGAGCTCAGTGTGT  
TCTGGGATTATGCCAAGGCCGTGGGGCTCTGTACCACGCTGGCCATCTGTCTCCTGTATGTGGGTCAAAGTGC GG  
CTGCCATTGGAGCCAATGTGTGGCTCAGTGCCTGGACAAATGATGCCATGGCAGACAGTAGACAGAACAACACTT  
CCCTGAGGCTGGGCGTCTATGCTGCTTTAGGAATTCTGCAAGGGTTCTTGGTGATGCTGGCAGCCATGGCCATGG  
CAGCGGGTGGCATCCAGGCTGCCCCTGTGTGTGACACAGGCACTGCTGCACAACAAGATACGCTCGCCACAGTCTT  
TCTTTGACACCACACCATCAGGCCGCATCCTGAAGTCTTCTCCAAGGACATCTATGTGCTTGATGAGGTTCTGG  
CCCCTGTATCTCTCATGCTGCTCAATTCCTTCTTCAACGCCATCTCCACTCTTGTGGTTCATCATGGCCAGCACGC  
CGCTCTTCACTGTGGTTCATCCTGCCCCCTGGCTGTGCTCTACACCTTAGTGCAGCGCTTCTATGCAGCCACATCAC  
GGCAACTGAAGCGGCTGGAATCAGTCAGCCGCTCACCTATCTACTCCCACTTTTCGGAGACAGTACTGGTGCCA

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**FIGURE 4893B**

GTGTCATCCGGGCCTACAACCGCAGCCGGGATTTTGAGATCATCAGTGATACTAAGGTGGATGCCAACCAGAGAA  
GCTGCTACCCCTACATCATCTCCAACCGGTCAGAAGCCGCCTCCCTCGCTCCCTGCTCCTCCAGGAATTCCCAGC  
AGGCTCTCTGGTGTTTCAGGGTCCTTGTCCTCCTTTCCCTAAGCAGAAAACCTGGCCCTGCCCTGCCCTGCCCT  
ATTTCTCTCATCTGATCCCCCATAGGTGGCTGAGCATCGGAGTGGAGTTTCGTGGGGAACCTGCGTGGTGCTCTT  
TGCTGCACTATTTGCCGTATCGGGAGGAGCAGCCTGAACCCGGGGCTGGTGGGCCTTTCTGTGTCCTACTCCTT  
GCAGGTGACATTTGCTCTGAACTGGATGATACGAATGATGTCAGATTTGGAATCTAACATCGTGGCTGTGGAGAG  
GGTCAAGGAGTACTCCAAGACAGAGACAGAGGCGCCCTGGGTGGTGGGAAGGCAGCCGCCCTCCCGAAGGTTGGCC  
CCCACGTGGGGAGGTGGAGTTCGGAATTATTCTGTGCGCTACCGGCCGGGCCTAGACCTGGTGCTGAGAGACCT  
GAGTCTGCATGTGCACGGTGGCGAGAAGGTGGGGATCGTGGGCCGCACTGGGGCTGGCAAGTCTTCCATGACCCT  
TTGCCTGTTCCGCATCCTGGAGGCGGCAAAGGGTGAAATCCGCATTGATGGCCTCAATGTGGCAGACATCGGCCT  
CCATGACCTGCGCTCTCAGCTGACCATCATCCCGCAGGACCCCATCCTGTTCTCGGGGACCCCTGCGCATGAACCT  
GGACCCCTTCGGCAGCTACTCAGAGGAGGACATTTGGTGGGCCTTTGGAGCTGTCCACCTGCACACGTTTGTGAG  
CTCCCAGCCGGCAGGCCTGGACTTCCAGTGCTCAGAGGGCGGGGAGAATCTCAGCGTGGGCCAGAGGCAGCTCGT  
GTGCCTGGCCCCGAGCCCTGCTCCGCAAGAGCCGCATCCTGGTTTTAGACGAGGCCACAGCTGCCATCGACCTGGA  
GACTGACAACCTCATCCAGGCTACCATCCGCACCCAGTTTGATACCTGCACTGTCCTGACCATCGCACACCGGCT  
TAACACTATCATGGACTACACCAGGGTCCTGGTCTGGACAAAGGAGTAGTAGCTGAATTTGATTCTCCAGCCAA  
CCTCATTGCAGCTAGAGGCATCTTCTACGGGATGGCCAGAGATGCTGGACTTGCCTAAAATATATTCTGAGATT  
TCCTCCTGGCCTTTCTGTTTTTCATCAGGAAGGAAATGACACCAAATATGTCCGCAGAATGGACTTGATAGCAA  
ACACTGGGGGCACCTTAAGATTTTGCACCTGTAAAGTGCTTACAGGGTAACTGTGCTGAATGCTTTAGATGAGG  
AAATGATCCCCAAGTGGTGAATGACACGCCTAAGGTCACAGCTAGTTTGAGCCAGTTAGACTAGTCCCCCGGTCT  
CCCGATTCCCAACTGAGTGTTATTTGCACACTGCACTGTTTTCAAATAACGATTTTATGAAATGACCTCTGTCTT  
CCCTCTGATTTTTCATATTTTCTAAAGTTTCGTTTCTGTTTTTAATAAAAAGCTTTTTCTCCTGGAACAGAA  
GACAGCTGCTGGGTGAGGCCACCCCTAGGAACCTCAGTCTGTACTCTGGGGTGCTGCCTGAATCCATTAAAAATG  
GGAGTACTGATGAAATAAACTACATGGTCAACAGTAAAAAAAAAAAAAAAAAAAA



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**FIGURE 4894**

MDALCGSGELGSKFWDSNLSVHTENPDLTPCFQNSLLAWVPCIYLWVALPCYLLYLRRHCRGYIILSHLSKLMV  
LGVLLWCVSWADLFYSFHGLVHGRAPAPVFFVTPLVVGVTMLLATLLIQYERLQGVQSSGVLIIFWFLCVVCAIV  
PFRSKILLAKAEGEISDPFRFTTFYIHFALVLSALILACFREKPPFFSAKNVDPNPYPETSAGFLSRLFFWWFTK  
LLNPDPLRGCLPGFTSPQDGLWLPA SPGGEGPLVPKGRGQIPDGGAAAAGGMEEAGKADGTTQGFSSSTWEKCLR  
RGRGAAGCPAQAPEALLPEGPAHGLRLQLPHQCLLQAYPGPALLHQSTAAQHPDQVYLQPHGPLLVGLPGGWADV  
PVLHDAVADLTLLPLHLCDWGEVSYWDHGCHLQEGSGYHQLSQT CVHCGGNCQPHVSGCPALHGPCPLPQSAVV  
STPADHPGDLLPLAEPRSLCPGWSRFHGLADSTQ RSCGRE DARLP GKANEIEGLAHQADE

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**FIGURE 4895A**

CTCCGGCGCCCGCTCTGCCCGCCGCTGGGTCCGACCGCGCTCGCCTTCCTTGACGCCGCGCCTCGGCCCCATGGA  
CGCCCTGTGCGGTTCGGGGGAGCTCGGCTCCAAGTTCTGGGACTCCAACCTGTCTGTGCACACAGAAAACCCGGA  
CCTCACTCCCTGCTTCCAGAACTCCCTGCTGGCCTGGGTGCCCTGCATCTACCTGTGGGTGCGCCCTGCCCTGCTA  
CTTGCTCTACCTGCGGCACCATGTCTGTGGCTACATCATCCTCTCCACCTGTCCAAGCTCAAGATGGTCTGGG  
TGTCCTGCTGTGGTGCGTCTCCTGGGCGGACCTTTTTTACTCCTTCCATGGCCTGGTCCATGGCCGGGCCCTGC  
CCCTGTTTTCTTTGTACCCCCCTTGGTGGTGGGGGTACCATGCTGCTGGCCACCTGCTGATACAGTATGAGCG  
GCTGCAGGGCGTACAGTCTTCGGGGGTCTCTATTATCTTCTGGTTCTGTGTGGTCTGCGCCATCGTCCCAT  
CCGCTCCAAGATCCTTTTAGCCAAGGCAGAGGGTGAGATCTCAGACCCCTTCCGCTTCACCACCTTCTACATCCA  
CTTTGCCCTGGTACTCTCTACCCCTCATCTTGGCCTGCTTACAGGAGAAAACCTCCATTTTTCTCCGCAAAGAATGT  
CGACCCTAACCCCTACCTTGAGACCAGCGCTGGCTTTCTCTCCCGCCTGTTTTCTGGTGGTTCACAAAGATGGC  
CATCTATGGCTACCGGCATCCCTGGAGGAGAAGGACCTCTGGTCCCTAAAGGAAGAGGACAGATCCCAGATGGT  
GGTGCAGCAGCTGCTGGAGGCATGGAGGAAGCAGGAAAAGCAGACGGCACGACACAAGGCTTCAGCAGCACCTGG  
GAAAAATGCCTCCGGCGAGGACGAGGTGCTGCTGGGTGCCCGGCCAGGCCCGGAAGCCCTCCTTCTGAAGGC  
CCTGCTGGCCACCTTCGGCTCCAGCTTCTCATCAGTGCTGCTTCAAGCTTATCCAGGACCTGCTCTCCTTCAT  
CAATCCACAGCTGCTCAGCATCTGATCAGGTTTTATCTCCAACCCCATGGCCCCCTCCTGGTGGGGCTTCTGGT  
GGCTGGGCTGATGTTCTGTGCTCCATGATGCAGTGCCTGATCTTACAACACTATTACCACTACATCTTTGTGAC  
TGGGGTGAAGTTTCGTACTGGGATCATGGGTGTCATCTACAGGAAGGCTCTGGTTATACCAACTCAGTCAAACG  
TGCCTCACTGTGGGGGAAATTGTCAACCTCATGTGAGTGATGCCAGCGCTTCATGGACCTTGCCCCCTTCTCT  
CAATCTGCTGTGGTCAACCCCTGCAGATCATCTGGCGATCTACTTCTCTGGCAGAACCTAGGTCCCTCTGT  
CCTGGCTGGAGTGCCTTTTCATGGTCTTGCTGATTCCACTCAACGGAGCTGTGGCCGTGAAGATGCGCGCCTTCCA  
GGTAAAGCAAATGAAATTGAAGGACTCGCGCATCAAGCTGATGAGTGAGATCCTGAACGGCATCAAGGTGCTGAA  
GCTGTACGCCTGGGAGCCCAGCTTCCTGAAGCAGGTGGAGGGCATCAGGCAGGGTGAGCTCCAGCTGCTGCGCAC  
GGCGGCCTACCTCCACACCACAACCACCTTCACCTGGATGTGCAGCCCCCTTCTGGTGACCCTGATCACCCCTCTG  
GGTGTACGTGTACGTGGACCCAAACAATGTGCTGGACGCCGAGAAGGCCTTTGTGTCTGTGTCTTGTTTAATAT  
CTTAAGACTTCCCCTCAACATGCTGCCCCAGTTAATCAGCAACCTGACTCAGGCCAGTGTGTCTCTGAAACGGAT  
CCAGCAATTCTGAGCCAAGAGGAACCTTGACCCCCAGAGTGTGGAAGAAAGACCATCTCCCCAGGCTATGCCAT  
CACCATACACAGTGGCACCTTCACCTGGGCCCAGGACCTGCCCCCACTCTGCACAGCCTAGACATCCAGGTCCC  
GAAAGGGGCACTGGTGGCCGTGGTGGGGCTGTGGGCTGTGGGAAGTCTCCTCCCTGGTGTCTGCCCTGCTGGGAGA  
GATGGAGAAGCTAGAAGGCAAAGTGACATGAAGGGCTCCGTGGCCTATGTGCCCCAGCAGGCATGGATCCAGAA  
CTGCACCTCTTCAGGAAAACGTGCTTTTCGGCAAAGCCCTGAACCCCAAGCGCTACCAGCAGACTCTGGAGGCCTG  
TGCTTGTCTAGCTGACCTGGAGATGCTGCCTGGTGGGGATCAGACAGAGATTGGAGAGAAGGGCATTAACTGTG  
TGGGGGCCAGCGGCAGCGGCTCAGTCTGGCTCGAGCTGTTTACAGTGATGCCGATATTTTCTTGTGATGACCC  
ACTGTCCGCGGTGGACTCTCATGTGGCCAAGCACATCTTTGACCACGTCATCGGGCCAGAAGGCGTGTGTCAGG  
CAAGACGCGAGTGTGGTGACGCACGGCATTAGCTTCTGCCCCAGACAGACTTCATCATTGTGCTAGCTGATGG  
ACAGGTGTCTGAGATGGGCCCCTACCCAGCCCTGCTGCAGCGCAACGGCTCCTTTGCCAACTTTCTCTGCAACTA  
TGCCCCGATGAGGACCAAGGGCACCTGGAGGACAGCTGGACCGCGTGGAAAGGTGCAGAGGATAAGGAGGCACT  
GCTGATTGAAGACACACTCAGCAACCACACGGATCTGACAGACAAATGATCCAGTCACCTATGTGGTCCAGAAGCA  
GTTTATGAGACAGCTGAGTGCCCTGTCTCTCAGATGGGGAGGGACAGGGTTCGGCCTGTACCCCGGAGGCACCTGGG  
TCCATCAGAGAAGGTGCAGGTGACAGAGGCGAAGGCAGATGGGGCACTGACCCAGGAGGAGAAAGCAGCCATTGG  
CACTGTGGAGCTCAGTGTGTTCTGGGATTATGCCAAGGCCGTGGGGCTCTGTACCACGCTGGCCATCTGTCTCTCT  
GTATGTGGGTCAAAGTGCGGCTGCCATTGGAGCCAATGTGTGGCTCAGTGCCTGGACAAATGATGCCATGGCAGA  
CAGTAGACAGAACAACTTCCCTGAGGCTGGGCGTCTATGCTGCTTTAGGAATTCTGCAAGGGTCTTGGTGTAT  
GCTGGCAGCCATGGCCATGGCAGCGGGTGGCATCCAGGCTGCCCCGTGTGTGACCAGGCACTGCTGCACAACAA  
GATACGCTCGCCACAGTCTTCTTTGACACCACACCATCAGGCCGATCCTGAACTGCTTCTCCAAGGACATCTA  
TGTCGTTGATGAGGTTCTGGCCCCCTGTCTCCTCATGCTGCTCAATTCTTCTTCAACGCCATCTCCACTCTTGT  
GGTCATCATGGCCAGCACGCCGCTCTTCACTGTGGTCTCCTGCCCCCTGGCTGTGCTCTACACCTTAGTGCAGCG  
CTTCTATGCAGCCACATCACGGCAACTGAAGCGGCTGGAATCAGTCAGCCGCTCACCTATCTACTCCCACTTTTC  
GGAGACAGTGACTGGTGCCAGTGTCTCCGGGCTACAACCGCAGCCGGGATTTTGAGATCATCAGTGATACTAA

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**FIGURE 4895B**

GGTGGATGCCAACCAGAGAAGCTGCTACCCCTACATCATCTCCAACCGGTCAGAAGCCGCCTCCCTCGCTCCCTG  
CTCCTCCAGGAATTCCCAGCAGGCTCTCTGGTGTTCAGGGTCCTTGTCCCTCCTTTCCCCTAAGCAGAAAACTGG  
CCCTGCCCTGCCCCTGCCCCATTTCTCTCATCTGATCCCCCATAGGCGGCTGAGCATCGGAGTGAGATTTCGTG  
GGGAACTGCGTGGTGCTCTTTGCTGCACTATTTGCCGTTCATCGGGAGGAGCAGCCTGAACCCGGGGCTGGTGGGC  
CTTTCTGTGTCCTACTCCTTGCAAGTGACATTTGCTCTGAACCTGGATGATACGAATGATGTCAGATTTGGAATCT  
AACATCGTGGCTGTGGAGAGGGTCAAGGAGTACTCCAAGACAGAGACAGAGGCGCCCTGGGTGGTGGAAAGGCAGC  
CGCCCTCCCGAAGGTTGGCCCCACGTGGGGAGGTGGAGTTCCGGAATTATTCTGTGCGCTACCGGCCGGGCCTA  
GACCTGGTGCTGAGAGACCTGAGTCTGCATGTGCACGGTGGCGAGAAGGTGGGGATCGTGGGCCGCACTGGGGCT  
GGCAAGTCTTCCATGACCCTTTGCCTGTTCCGCATCCTGGAGGCGGCAAGGGTGAAATCCGCATTGATGGCCTC  
AATGTGGCAGACATCGGCCTCCATGACCTGCGCTCTCAGCTGACCATCATCCCGCAGGACCCCATCCTGTTCTCG  
GGGACCCTGCGCATGAACCTGGACCCCTTCGGCAGCTACTCAGAGGAGGACATTTGGTGGGCTTTGGAGCTGTCC  
CACCTGCACACGTTTGTGAGCTCCCAGCCGGCAGGCCTGGACTTCCAGTGCTCAGAGGGCGGGGAGAATCTCAGC  
GTGGGCCAGAGGCAGCTCGTGTGCCTGGCCCGAGCCCTGCTCCGCAAGAGCCGCATCCTGGTTTTAGACGAGGCC  
ACAGCTGCCATCGACCTGGAGACTGACAACCTCATCCAGGCTACCATCCGCACCCAGTTTGATACCTGCACTGTC  
CTGACCATCGCACACCGGCTTAACACTATCATGGACTACACCAGGGTCCTGGTCCTGGACAAAGGAGTAGTAGCT  
GAATTTGATTCTCCAGCCAACCTCATTGCAGCTAGAGGCATCTTCTACGGGATGGCCAGAGATGCTGGACTTGCC  
TAAAAATATATTCTGAGATTTCTCCTGGCCTTTCTGGTTTTTCATCAGGAAGGAAATGACACCAAATATGTCCG  
CAGAATGGACTTGATAGCAAACTGGGGGCACCTTAAGATTTTGCACCTGTAAAGTGCCTTACAGGGTAACTGT  
GCTGAATGCTTTAGATGAGGAAATGATCCCCAAGTGGTGAATGACACGCCTAAGGTCACAGCTAGTTTGAGCCAG  
TTAGACTAGTCCCCCGGTCTCCCGATTCCCAACTGAGTGTTATTTGCACACTGCACTGTTTTCAAATAACGATTT  
TATGAAATGACCTCTGTCTCTCCCTCTGATTTTTTCATATTTTCTAAAGTTTCGTTTCTGTTTTTAATAAAAAGC  
TTTTTCTCCTGGAACAGAAGACAGCTGCTGGGTGAGGCCACCCCTAGGAACTCAGTCCTGTACTCTGGGGTGCT  
GCCTGAATCCATTAAAAATGGGAGTACTGATGAAATAAACTACATGGTCAACAGTAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4896**

MDALCGSGELGSKFWD SNLSVHTENPDLTPCFQNSLLAWVPCIYLVVALPCYLLYLRRHHCGRGYIILSHLSKLMV  
LGVLLWCVSWADLFYSFHGLVHGRAPAPVFFVTPLVVGVTMLLATLLIQYERLQGVQSSGVLIIFWFLCVVCAIV  
PFRSKILLAKAEGEISDPFRFTTFYIHFALVLSTLILACFREKPPFFSAKNVDPNPYPETSAGFLSRLFFWWFTK  
MAIYGYRHPLEEKDLWSLKEEDRSQM VVQQLLEAWRKQEKQTARHKASAAPGKNASGEDEVLLGARPRPRKPSFL  
KALLATFGSSFLISACFKLIQDLLSFINPQLLSILIRFISNPMAPSWWGFLVAGLMFLCSMMQSLILQHYYHYIF  
VTGVKFRTGIMGVIYRKALVITNSVKRASTVGEIVNLMSVDAQRFMDLAPFLNLLWSAPLQIILAIYFLWQNLGP  
SVLAGVAFMVLLIPLNGAVAVKMRAFQVKQMKLKDSRIKLMSEILNGIKVLKLYAWEPSFLKQVEGIRQGELOLL  
RTAAYLHTTTTFTWMCSPFLVTLITLWVYVYVDPNNVLDAEKAFVSVSLFNILRLPLNMLPQLISNLTQASVSLK  
RIQQFLSQEELDPQSVERKTISPGYAITIHSGTFTWAQDLPTLHSLDIQVPGALVAVVGPVGCCKSSLVSALL  
GEMEKLEGVHMKGSVAYVPQQA WIQNCTLQENVLF GKALNPKRYQQTLEACALLADLEMLPGGDQTEIGEKGIN  
LSGGQRQRVSLARAVYSDADIFLLDDPLSAVD SHVAKHIFDHVIGPEGVLAGKTRVLVTHGISFLPQTDFIIVLA  
DGQVSEMGPYPALLQRNGSFANFLCNYAPDEDQGHLEDSWTALEGAEDKEALLIEDTL SNHTD LTDNDPVTYVVQ  
KQFMRQLSALSSDGEGQGRPVPRRHLGPSEKVQVTEAKADGALTQEEKAAIGTVELSVFWDYAKAVGLCTTLAIC  
LLYVGQSAAAIGANVWLSAWTNDAMADSRQNN TSLRLGVYAALGILQGFLVMLAAMAMAAGGIQAARVLHQALLH  
NKIRSPQSFFDTPSGRI LNCFSKDIYVDEV LAPVILMLLNSFFNAISTLVVIMASTPLFTV VILPLAVLYTLV  
QRFYAATSRQLKRLESVSRSPIYSHFSETVTGASVIRAYNRSRDFEII SDTKVDANQRSCYPYIISNRSEAASLA  
PCSSRNSQQALWCSGSLSLSPKQKTGPALPLPHFLLI

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**FIGURE 4897**

GTGCTGCCTGGCGCTGGCTAGGAGGCAAACGCACGCGGGAAGAGCTGCTACCCATTCCAGGGACCCTGCCGCTGC  
CCCTCTGAGGGGTCTGCACCTCCTGGGAGCAGGTGGGTCTCTGGGACGAGGGTCCATGGTGGATGGCTCTGGAGA  
CGCTCCCCGAGGCTGTGCCGTCCCGCTGCTGCACAGGTTCGGAGGGTCACCGCAGAGGCTACTCGGGCTGGGGCTGG  
GGCCGAGGGAGCCCGCACTGGAGCCCCATGTGGAACCAAGGATGCAGCTGCTCTGCTAACACGGCAGCCCATCC  
TTCAAGACTGTGACCTCGCCACAGTGGCCCTCAGCCCTCCACCTCCGGCGGGGGCGAGGGCCACCCACCTCCAAG  
TCTCCAGCCATGACGACCTCCGCACTCCGGCGCCAGGTGAAGAACATCGTGCACTACTCCGAGGCAGAAATC  
AAGGTGCGCGAGGCCACCAGCAATGACCCCTGGGGCCCCCTAGTTGCTCATGTCCGAGATCGCTGACCTGACC  
TTCAACACAGTGGCCTTCACCGAAGTCATGGGCATGCTGTGGCGGGCGGCTCAATGACAGCGGCAAGAAGTGGCGG  
CACGTGTACAAGGCTCTAACATTGCTGGACTACCTGCTCAAGACGGGCTCCGAGCGGGTGGCCACCAGTGCCGC  
GAGAACCTCTACACCATCCAGACACTCAAGGACTTCCAGTACATCGACCGCGACGGCAAGGACCAGGGCGTCAAC  
GTGCGCGAGAAGGTCAAGCAGGTGATGGCCCTGCTCAAGGATGAGGAGCGGCTGCGGCAGGAGCGAACCACGCC  
CTCAAGACCAAGGAGCGCATGGCACTGGAGGGCATCGGCATTGGCAGTGGGCAGCTGGGCTTCAGCCGCCGCTAC  
GGCGAGGACTACAGCCGCTCCCGGGGCTCCCGTCTCTCTACAACCTCCTCCTCTTCGTACCCCGCTATACCTCC  
GACCTGGAGCAGGCCCCGGCCTCAGACGTCAGGGGAAGAGGAAGTGCAGCTGCAGCTGGCCCTCGCCATGAGCCGT  
GAGGAGGCAGAGAAGCCTGTCCCCCAGCCTCCACAGGGACGAGGACCTGCAGCTGCAGCTGGCTCTGCGCCTG  
AGCCGGCAGGAGCACGAGAAGGAGGTGAGGTCTGGCAGGGTGATGGCTCCCCCATGGCCAATGGTGCAGGGGCC  
GTGGTCCACCATCAGCGGGACAGAGAGCCTGAGAGAGAAGAGAGAAAGGAGGAGGAGAAGCTAAAAACAGCCAG  
TCCTCCATCCTGGACTTGGCTGACATCTTCGTACCTGCCCTGGCCCCGCCCTCCACACACTGCTCTGCTGACCCA  
TGGGACATCCCAGGTTTTAGGCCGAACACAGAGGCCAGTGGATCCTCCTGGGGGCTTCTGCAGACCCCTGGTCT  
CCGATCCCCCTCAGGAACCGTCTGTCCCGAAGCCAGCCCTGGGATCTGACTCCCATGCTCTCCTCCTCTGAGCCC  
TGGGGCAGGACCCAGTGTGCTGCTGGGCCCCCACCACAGACCCCTGGGGCCTGAACTCTCCCCACCACAAA  
CTCCCCAGCACTGGGGCTGACCCCTGGGGAGCCTCCCTGGAGACCTCCGACACACCTGGTGGTGCCTCGACCTTT  
GACCCATTTGCCAAACCTCCAGAATCCACAGAGACCAAGGAGGGGCTGGAGCAGGCCCTGCCCTCTGGGAAGCCC  
AGCAGCCCTGTGGAGCTGGACCTGTTTGGAGACCCAGCCCCAGTTCCAAGCAAAATGGCACGAAGGAGCCAGAT  
GCCCTGGACCTGGGCATACTAGGGGAAGCACTAACCCAGCCAAGCAAAGAGGCCCGAGCTTGCCGGACTCCCGAG  
TCCTTCCTGGGTCCCTCAGCTTCCTCCTTGGTCAACCTTGACTCGTTGGTCAAGGCACCCAGGTTGCAAAGACC  
CGGAACCCCTTCCTGACAGGTCTCAGCGCTCCGTCCCCCACCACCCGTTTCGGCGCGGGCGAGCCGGGCAGGCCG  
ACGCTAAACCAGATGCGCACCGGCTCGCCGGCGCTGGGCCTGGCAGGCGGGCCTGTGGGGGCGCCCCCTGGGCTCC  
ATGACCTACAGCGCTCTCTGCCCCCTCCCGCTCAGCAGCGTGCCAGCTGGCTTGACCCTCCCCGCTCGGTTAGC  
GTCTTCCCGCAGGCCGGAGCCTTCGCACCGCAGCCGCTGCTGCCACGCGGAGCTCAGCCGGGCCGCGGCCCCCCG  
CCCCCGCAGACCGGCACCAACCCCTTCCTCTGAGCCCCGCCCCGTCCCATACCGGCCTGCGCCTGCGCCGGACGC  
TCCGCGGCCCGCCTCCGGACCCGGGGCTGGGCGGGGCGCCGGTGCTAGTGGAACGCCGAGCCAGTGGCGGCTGG  
TATCCCGCGGCGGCTCTGGAAGCTGGACGCGGACACGGCCCCGGGAGCTAGAACTGAACGCCCGCATAATAAG  
ACTGGAACCTCGTTCTCAGCTCTACCAAGTGGACTTTTTCGCGGGTGTGGCGGGCGGGTCTCGACCACAGCGT  
GGATCACCGGCTGTTTAGGAACTGCAGCTGCACAACGTGGGGTGCAAACTGCCCGCTTCCTTTACAGCTCTT  
CTCAACCTCACCTCCATCCCCGCTACCCAGGCACCTTCGCTTCAGATGCTGCCAGGCTGTCACTCAATTCCG  
TCATTTCAATTCATTTATCACACATGGGCACTGGGGTTGGGCTAACAGCAAGAGACAATAGGCCTTTGTTTCTATT  
TATTGGGTACTGCTTACGTGCTAAGCAGATCAGTTTATTTAATGCTTGCAACGACTCTCTGAGGTAGAAAATATT  
GTTAATTCCGTTCAGGATCCCGGCTACATAATCTGTGGGGCTCAATACAAAATAAAAATGTAGGGGCTCCTTGTT  
C

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**FIGURE 4898**

GTGATCCCTGCGCGCGTCTCCTGCTCGGGTCAGTGCGCCGCGCTGCGCTGGGCGCCATGGCGCTCCCCGGAGCCC  
GGGCTCGCGGCTGGGCGGCAGCAGCCAGAGCGGCCAGAGGCGCCGCGCGTGGAGAACGCAGGAGGGTCCCCGA  
GTCTGAGCCTGCGGGCCGGCGCGCGGCGCTTTACGTACACTGGCCTTACTGCGAGAAGCGCTGCAGTTACTGCA  
ACTTCAACAAGTACATCCCTCGCCGCCTGGAGGAGGCTGCCATGCAGAAGTGTCTGGTGACCGAAGCTCAGACGC  
TGCTGCGGCTCAGCGGGGTGCAACGGGTGGAGTCTGTGTTCTTTGGTGGGGGGACCCCCAGTCTAGCCAGTCCCC  
ACACGGTGGCTGCTGTCTGAGGCTGTGGCACAGGCAGCCACCTGCCTGCAGACTTGGAAGTCACATTGGAGG  
CTAATCCTACTTCAGCTCCGGGCTCCAGACTGGCAGAGTTCGGGGCAGCAGGGGTAAACAGGTTGTCTATAGGCC  
TCCAGTCCCTAGATGACACTGAGCTCCGGCTGTTGGGACGGACGCACTCGGCCTGCGATGCTCTGCGGACGCTGG  
CAGAGGCCCGGCGCCTCTTTCCCGGGCGCGTGTCTGTAGACTTGATGCTGGGGCTGCCGGCACAGCAGGTGGGGC  
CGTGGCTTGGGCAGCTGCAGGAAGTGTGCACTGTGATGACCACCTCTCCCTCTACCAGCTGTCCCTGGAGC  
GGGGCACCGCACTCTTCGCCCAGGTGCAGCGGGGTGCCCTTCAGCCCCTGACCCGGAGCTCGCAGCTGAGATGT  
ACCAGAGGGGCGGGCTGTCTTCGGGAGGCTGGCTTCACCAGTATGAGGTCTCCAACCTTTGCCCGGAATGGGG  
CGCTCAGTACCCACAATTGGACTTACTGGCAGTGTGGTCACTACCTTGGCGTTGGGGCTGGGGCCCATGGACGAT  
TTATGCCCCAGGGGGCTGGAGGCCACACCGGGAGGCTCGGATCCAGACACTGGAGCCTGACAACCTGGATGAAGG  
AGGTGATGCTGTTTGGCCATGGCACCCGGAAGCGTGTCCCCCTGGGCAGGCTGGAGCTGCTGGAGGAAGTTTTGG  
CCCTGGGGCTACGCACCGATGTGGGGATCACTCACCAGCACTGGCAGCAGTTTGAGCCCCAGCTGACCCTGTGGG  
ATGTGTTTGGAGCGAACAAGGAGGTGCAGGAGCTGCTGGAGCGGGGCTACTGCAGCTGGATCACAGGGGTCTTC  
GGTGTTCCTGGGAGGGTCTGGCTGTGCTGGACTCTCTCTTGCTGACCCTCCTGCCTCAGCTCCAAGAAGCCTGGC  
AGCAGAGAACCCCTCCCTGTGCCAGGAGGATAGACAAAAATGTTCTGTGTTCCAGGGTAATGCCAGGTGGGTT  
TTGAGAGCTGGGTGCGTACTGCAGACATCTCTTCTCCGTTGTGCGGTGCCGTCTCTGCTCCTTGTGGTTATTGCT  
CAGCCCTGGCATCCCCAGGGGAATGGCAGCAGTGAGGTAGATGGGAGGACATTTCTGGTCAGGGAATGGCATCC  
CATTACAGCATCTCAGGACTCACAGGCCAACATGTGTTCCATGGCTGGGAATTGCCTACCACCCACATCAGCTTCT  
GTTTACCTTTTTGGCATCAAATAATGAACAGTGTGGAAATCTTTCTACAGGCAATTACCTCCCCAAGAGAAGC  
CTTCCTTATTTTGGAGTAAGGTCTTAAGATAGCTGGATGAATCAGGAAAACCATGTCCCCTCTAGGTATTATTAA  
TATTAGCAGGAAGGGAICTACTATAGGAATGAAGTATTTATAAACCACTGAAAGGGATAGAGAAGTGAACATTGG  
AGAAAGCCAGTAGCAACTGTGAGAAATCAGCAACTGCAGGAGGCACAGAAAACCTCCTGCTGATGGTCTCAGCTT  
CCAGCAGCACAAAAGCAGATGATGTACTGAAAAATGCTCAGAAGATGCTACAAAACCTCATGCCTACTGTCTGCC  
ACTGCTGGAGAAGGAATCATGGTTTCTAGAAGTGCCTCTCATTAGTGGACTTTAAAGCAAATCCTGGCTGGCAGG  
AAATTCTGAGGAATATAGCTCTTAGGCTTCCAGCCTCTACCATGCAGGAGAGAACACAGAAGGACTGATGTATGT  
TGGTGGATCCATGTATGTGTCCAGCACAGCGCCTGCTGGACTCTGAGAACTGGGAAAGATCAGAGCAAGCCTTG  
CCTCTTATCTTCGGGAAACCAGAATATGTTTGGGGTGGTAGGAGCCACACAGACTCTTCTGAGCCCCCTCACTCA  
CTTCCTTCCCCCTGTGCCTTTCCTTTGAGAGTGAAGGTGGGTGGAGTTGACCAGAGAAAGGGGAGAGAATTCCGGG  
AAAGACCCAAAGTGTTTGTAATTCTTCTTTGTCCTTTTACCTACAGAAATGGTCACATGGTTCTATTTAAATAGC  
CTAATAAACACATCTGGAGCCTGT

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**FIGURE 4899**

MALPGARARGWAAAAARAAQRRRRVENAGGSPSPPEPAGRRAALYVHWPYCEKRCSYCNFNKYIPRRLEEAAMQKCL  
VTEAQTLRLRLSGVQRVESVFFGGGTPSLASPHTVAAVLEAVAQAAHLFADLEVTEANPTSAPGSRLAEFGAAGV  
NRLSIGLQSLDDTELRLRLLGRTHSACDALRTLAEARRLFPGRVSVDLMLGLPAQQVGPWLGLQELLHHCDDHLSL  
YQLSLERGTALFAQVQRGALPAPDPELAAEMYQRGRAVLREAGFHQYEVSNFARNGALSTHNWTYWQCGQYLGVG  
PGAHGRFMPQGAGGHTREARIQTLEPDNWMKEVMLFGHGTRKRVPLGRLELLEEVLA LGLRTDVGITHQHWQQFE  
PQLTLWDVFGANKEVQELLERGLLQLDHRGLRCSWEGLAVLDSLLLTLPLQLQEAQQRTSPSPVPGG

[illegible]



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**FIGURE 4901**

MKAVQADQERERQRRLEVEREAEKKREKQRAKEAQERELRKREKAEKERRRKEYDALKAAKREQEKKPKKEAN  
QAPKSKSGSRPRKPPPRKHTRSWAVLKLLLLLLLFVAGGLVACRVTELQQQPLCTSVNTIYDNAVQGLRRHEIL  
QWVLQTD SQQ

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**FIGURE 4902A**

AGGTGAACAGGTCCTCACGCCCAGCTCCGCGCCCTCACGCGCTCTCGCCGGGACCCCGCTTCCGCTGGCAGCCAT  
GGGCCCCGGCCCCAGCCGCGCGCCCCGCGCCCCACGCCTGATGCTCTGTGCGCTCGCCTTGATGGTGGCGGCCGG  
CGGCTGCGTCTCTCCGCTTCAACCTGGATACCCGATTCTGGTAGTGAAGGAGGCCGGGAACCCGGGCAGCCT  
CTTCGGCTACTCGGTGCGCCTCCATCGGCAGACAGAGCGGCAGCAGCGCTACCTGCTCCTGGCTGGTGGCCCCCG  
GGAGCTCGCTGTGCCCAGTGGCTACACCAACCGGACTGGTGTGTGTACCTGTGCCACTCACTGCCACAAGGA  
TGACTGTGAGCGGATGAACATCACAGTAAAAATGACCCTGGCCATCACATTATTGAGGACATGTGGCTTGGAGT  
GACTGTGGCCAGCCAGGGCCCTGCAGGCAGAGTTCTGGTCTGTGCCCACCGCTACACCCAGGTGCTGTGGTCAGG  
GTCAGAAGACCAGCGGCGCATGGTGGGCAAGTGCTACGTGCGAGGCAATGACCTAGAGCTGGACTCCAGTGATGA  
CTGGCAGACCTACCACAACGAGATGTGCAATAGCAACACAGACTACCTGGAGACGGGCATGTGCCAGCTGGGCAC  
CAGCGGTGGCTTACCCAGAACACTGTGTACTTCGGCGCCCCCGGTGCCTACAACGGAAAGGAAACAGCTACAT  
GATTACGCGCAAGGAGTGGGACTTATCTGAGTATAGTTACAAGGACCCAGAGGACCAAGGAAACCTCTATATTGG  
GTACACGATGCAGGTAGGCAGCTTATCCTGCAACCCCAAAAACATCACCATTTGTACAGGTGCCCCACGGCACCG  
ACATATGGGCGCGGTGTTCTTGCTGAGCCAGGAGGCAGGCGGAGACCTGCGGAGGAGGCAGGTGCTGGAGGGCTC  
GCAGGTGGGCGCCTATTTTGGCAGCGCCATTGCCCTGGCAGACCTGAACAATGATGGGTGGCAGGACCTCCTGGT  
GGGCGCCCCCTACTACTTCGAGAGGAAAGAGGAAGTAGGGGGTGCCATCTATGTCTTCATGAACCAGGCGGGAAC  
CTCCTTCCCTGCTCACCCCTCACTCCTTCTTCATGGCCCCAGTGGCTCTGCCTTTGGTTTATCTGTGGCCAGCAT  
TGGTGACATCAACCAGGATGGATTTTCAAGATATTGCTGTGGGAGCTCCGTTTGAAGGCTTGGGCAAAGTGTACAT  
CTATCACAGTAGCTCTAAGGGGCTCCTTAGACAGCCCCAGCAGGTAATCCATGGAGAGAAGCTGGGACTGCCTGG  
GTTGGCCACCTTCGGCTATTCCCTCAGTGGGCAGATGGATGTGGATGAGAACCTTACCCAGACCTTCTAGTGGG  
AAGCCTGTCAGACCACATTGTGCTGCTGCAGGGCCCCGGCCGTCATCAACATCGTCCACAAGACCTTGGTGGCCA  
GGCCAGCTGTGCTGGACCCTGCACCTTTCACGCGCCACCTCTGTGTGCAAGTGGAGCTGTGCTTTGCTTACAACC  
AGAGTGCCGGGAACCCCAACTACAGGCGAAACATCACCCCTGGCCTACACTCTGGAGGCTGACAGGGACCGCCGGC  
CGCCCCGGCTCCGCTTTGCGGCGAGTGAGTCCGCTGTCTTCCACGGCTTCTTCTCCATGCCCGAGATGCGCTGCC  
AGAAGCTGGAGCTGCTCCTGATGGACAACCTCCGTGACAACTCCGCCCATCATCATCTCCATGAACACTACTCTT  
TACCTTTGCGGATGCCCGATCGCCCCGGCTGGGGCTGCGGTCCCTGGACGCCTACCCGATCCTCAACCAGGCAC  
AGGCTCTGGAGAACCACACTGAGGTCCAGTTCAGAAAGGAGTGCGGGCCTGACAACAAGTGTGAGAGCAACTTGC  
AGATGCGGGCAGCCTTCGTGTGAGAGCAGCAGCAGAAAGCTGAGCAGGCTCCAGTACAGCAGAGACGTCCGGAAAT  
TGCTCCTGAGCATCAACGTGACGAACACCCGGACCTCGGAGCGCTCCGGGGAGGACGCCACAGGGCGCTGCTCA  
CCCTGGTGGTGCCTCCCGCCCTGCTGCTGTCTCCTCAGTGCGCCCCCCCCGGGGCCTGCCAAGCTAATGAGACCATCT  
TTTGCGAGCTGGGGAACCCCTTCAAACGGAACAGAGGATGGAGCTGCTCATCGCCTTTGAGGTCACTGGGGTGA  
CCCTGCACACAAGGGACCTTCAGGTGCAGCTGCAGCTCTCCACGTCGAGTCACCAGGACAACCTGTGGCCCATGA  
TCCTCACTCTGCTGGTGGACTATACACTCCAGACCTCGCTTAGCATGGTAAATCACCGGTACAAAGCTTCTTTG  
GGGGACAGTGATGGGTGAGTCTGGCATGAAAACCTGTGGAGGATGTAGGAAGCCCCCTCAAGTATGAATTCCAGG  
TGGGCCCAATGGGGGAGGGGCTGGTGGGCCTGGGGACCTGGTCTAGGTCTGGAGTGGCCCTACGAAGTCAGCA  
ATGGCAAGTGGCTGCTGTATCCACGGAGATCACCGTCCATGGCAATGGGTCTGGCCCTGCCGACCACCTGGAG  
ACCTTATCAACCCTCTCAACCTCACTCTTTCTGACCCTGGGGACAGGCCATCATCCCCACAGCGCAGGCGGCGAC  
AGCTGGATCCAGGGGGAGGCCAGGGCCCCCACCTGTCACTCTGGCTGCTGCCAAAAAGCCAAGTCTGAGACTG  
TGCTGACCTGTGCCACAGGGCGTGCCCACTGTGTGTGGCTAGAGTGCCCCATCCCTGATGCCCCCGTTGTACCA  
ACGTGACTGTGAAGGCACGAGTGTGGAACAGCACCTTCATCGAGGATTACAGAGACTTTGACCGAGTCCGGGTAA  
ATGGCTGGGCTACCCTATTCTCCGAACAGCATCCCCACCATCAACATGGAGAACAAGACCACGTGGTTCTCTG  
TGGACATTGACTCGGAGCTGGTGGAGGAGCTGCCGGCCGAAATCGAGCTGTGGCTGGTGTGGTGGCCGTGGGTG  
CAGGGCTGCTGCTGCTGGGGCTGATCATCCTCCTGCTGTGGAAGTGTGACTTCTTTAAGCGGACCCGCTATTATC  
AGATCATGCCCAAGTACCACGCAGTGCGGATCCGGGAGGAGGAGCGCTACCCACCTCCAGGGAGCACCTGCCCA  
CCAAGAAGCACTGGGTGACCAGCTGGCAGACTCGGGACCAATACTACTGACGTCTCCTGATCCCACCCCTCC  
TCCCCAGTGTCCCTTTCTTCTATTTATCATAAGTTATGCCTCTGACAGTCCACAGGGGCCACACCTTTGGC  
TGGTAGCAGCAGGCTCAGGCACATACACCTCGTCAAGAGCATGCACATGCTGTCTGGCCCTGGGGATCTTCCAC  
AGGAGGGCCAGCGCTGTGGACCTTACAACGCCGAGTGCACTGCATTCTGTGCCCTAGATGCACGTGGGGCCAC  
TGCTCGTGGACTGTGCTGGTGCATACGGATGGTGCATGGGCTCGCCGTGTCTCAGCCTCTGCCAGCGCCAAAAC

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**FIGURE 4902B**

AAGCCAAAGAGCCTCCCACCAGAGCCGGGAGGAAAAGGCCCTGCAATGTGGTGACACCTCCCCCTTTCACACTG  
GATCCATCTTGAGCCACAGTCACTGGATTGACTTTGCTGTCAAACTACTGACAGGGAGCAGCCCCGGGCGCT  
GGCTGGTGGGCCCCCAATGACACCCATGCCAGAGAGGTGGGGATCCTGCCTAAGGTTGTCTACGGGGGCACTTGG  
AGGACCTGGCGTGCTCAGACCCAACAGCAAAGGAAGTAAAGAAAGGACCCAGAACGGCTTGCTTTCCTGCATCT  
CTGTGAAGCCTCTCTCCTTGCCACAGACTGAACTCGCAGGGAATGCAGCAGGAAGGAACAAAGACAGGCAAACG  
GCAACGTAGCCTGGGCTCACTGTGCTGGGGCACGGCGGGATCCTCCACAGAGAGGAGGGGACCAATTCTGGACAG  
ACAGATGTTGGGAGGATACAGAGGAGATGCCACTTCTCACTCACCCTACCAGCCAGCCTCAGAAGGCCCCAGAG  
AGACCCTGCAAGACCACGGAGGGAGCGACACTTGAATGTAGAATAGGCAGGGGGCCCTGCCCCACCCCATCCAGC  
CAGACCCACGCTGACCATGCGTCAGGGGCCCTAGAGGTGGAGTTCTTAGCTATCCTTGGCTTTCAGAGCCAGCCT  
GGCTCTGCCCCCTCCCCATGGGCTGTGTCTTAAGGCCATTTGAGAAGCTGAGGCTAGTTCCAGAAAACCTCTC  
CTGACCCCTGCCTGTTGGCAGGCCCACTCCCCAGCCCCAGCCCTTCCATGGTACTGTAGCAGGGGAATTCCCTC  
CCCCTCCTTGTGCCTTCTTTGTATATAGGCTTCTCACGGCGACCAATAAACAGCTCCCAGTTTGT

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**FIGURE 4903**

GACAATATCAGGTGAGCTGTGGAGGTGGGGTCTTTGGAAGCTGGATGACAGCAGCTGGCAAGGGGATAAGAGAGC  
AGTGAGCCCCCTCCCTCAAGGAGGTCTGGCTTTATCCATAGACAGGGCCCCCTCTGAGGTGGGGCTGAGGTACAAAGG  
GGGATTGAGCAGCCCAGGAGAAGAGAGATGGGGGGTTCCCTTCTTCTCTCTCAGATGCATGGTGGACTTAGGA  
CCTTGCTGGGGCTGGGGGICTACTGCAGAGATGAAGCTGCTTCTGGCCCTAGCAGGGCTCCTGGCCATTCTGGCC  
ACGCCCCAGCCCTCTGAAGGTGCTGCTCCAGCTGTCTGGGGGAGGTGGACACCTCGTTGGTGTGAGCTCCATG  
GAGGAGGCCAAGCAGCTGGTGGACAAGGCCTACAAGGAGCGGCGGAAAGCATCAAGCAGCGGCTTCGCAGCGGC  
TCAGCCAGCCCCATGGAACCTCTATCTTCAAGCAGCCGGTGGCAGCCACCAGGACGGCGGTGAGGGCCGCT  
GACTACCTGCACGTGGCTCTAGACCTGCTGGAGAGGAAGCTGCGGTCCCTGTGGCGAAGGCCATTCAATGTCACT  
GATGTGCTGACGCCCCGCCCAGCTGAATGTGTTGTCCAAGTCAAGCGGCTGCGCTACCAGGACGTGGGGGTGACT  
TGCCCGGAGCAGGACAAATACCGCACCATCACCGGGATGTGCAACAACAGACGACGCCACGCTGGGGGCTCC  
AACCCTGCTTTGTGCGCTGGCTGCGGCGGAGTATGAGGACGGCTTCTCTCTTCCCTACGGCTGGACGCCCCGG  
GTCAAGCGCAACGGCTTCCCGGTGGCTCTGGCTCGCGCGGTCTCCAACGAGATCGTGCGCTTCCCCACTGATCAG  
CTGACTCCGGACCAGGAGCGCTCACTCATGTTTCAATGAGGAGGCTGTTGGACCACGACCTCGACTTCACC  
CCTGAGCCGGCCGCCCCGGGCTCCTTCGTCACTGGCGTCAACTGCGAGACCAGCTGCGTTCAGCAGCCGCCCTGC  
TTCCCGCTCAAGATCCCGCCCAATGACCCCCGCATCAAGAACCAAGCCGACTGCATCCCGTTCTTCCGCTCCTGC  
CCGGCTTGCCCCGGGAGCAACATCACCATCCGCAACCAGATCAACGCGCTCACTTCTTCGTGGACGCCAGCATG  
GTGTACGGCAGCGAGGAGCCCCCTGGCCAGGAACCTGCGCAACATGTCCAACCAGCTGGGGCTGCTGGCCGTCAAC  
CAGCGCTTCCAAGACAACGGCCGGGCCCCCTGCTGCCCTTTGACAACCTGCACGATGACCCCTGTCTCCTACCAAC  
CGCTCAGCGCGCATCCCCTGCTTCTTGGCAGGGGACACCCGTTCCAGTGAGATGCCCGAGCTCACCTCCATGCAC  
ACCCTCTTACTTCGGGAGCACAACCGGCTGGCCACAGAGCTCAAGAGCCTGAACCCTAGGTGGGATGGGGAGAGG  
CTCTACCAGGAAGCCCGGAAGATCGTGGGGGCCATGGTCCAGATCATCACTTACCGGGACTACCTGCCCCCTGGTG  
CTGGGGCCAACGGCCATGAGGAAGTACCTGCCCACGTACCGTTCCCTACAATGACTCAGTGGACCCACGCATCGCC  
AACGTCTTACCAATGCCTTCCGCTACGGCCACACCCCTCATCCAACCCTTCATGTTCCGCCTGGACAATCGGTAC  
CAGCCCATGGAACCCAACCCCCGTGTCCCCCTCAGCAGGGTCTTTTTTGCCTCCTGGAGGGTCTGTGCTGGAAGGT  
GGCATTGACCCCATCCTCCGGGGCTCATGGCCACCCCTGCCAAGCTGAATCGTCAGAACCAATTGCAGTGGAT  
GAGATCCGGGAGCGATTGTTTGGAGGTCATGAGGATTGGGCTGGACCTGCCTGCTCTGAACATGCAGCGCAGC  
AGGGACCACGGCCTCCCAGGATACAATGCCTGGAGGCGCTTCTGTGGGCTCCCGCAGCCTGAAACTGTGGGCCAG  
CTGGGCACGGTGTGAGGAACCTGAAATTGGCGAGGAACTGATGGAGCAGTATGGCAGCCCCAACACATCGAC  
ATCTGGATGGGCGGCGTGTCCGAGCCTCTGAAGCGCAAAGGCCGCTGGGCCCCACTCCTCGCCTGCATCATCGGT  
ACCCAGTTCAGGAAGCTCCGGGATGGTGATCGGTTTTGGTGGGAGAACGAGGGTGTGTTACAGCATGCAGCAGCGA  
CAGGCCCTGGCCCAGATCTCATTGCCCCGGATCATCTGCGACAACACAGGCATCACACCCTGTCTAAGAACAAC  
ATCTTCATGTCCAACCTCATATCCCCGGGACTTTGTCAACTGCAGTACACTTCTGCATTGAACCTGGCTTCTTGG  
AGGGAAGCCTCTCTAGAGGCCAGGTAAGGGGTGCAGCAGTGAGGGGTATATCTGGGCTGGCCAGTTGGAACCACG  
GAGATCTCCTTGCCCTAGATGAGCCCAGCCCTGTTCTGGGTGCAGCTGAGAAAATGAGTGAAGTACTAGACGTTCAATT  
GTGTGCTCATGTATGTGCGAAGTATATAAATTGGCTTTTCATGCGTGTGTGTTGTCTGAACATGGGGAGTGTTC  
ATGGGTTATGTGTATGTGCCATTTATGTGAGTGTGTGTTGTGCTGATGAGAATACTGAGTATGTGGAAGGCAGC  
AGAGCGGACTGGTGAGGAGCACAGCTCAGGAACCTAGACTGCCTGGGTTCCAATCCTGGCTCTGTGGCTTGCTAGC  
TATGTGACCTTGAGCAAATTACCCTCCTTAAACAAGAGTTTTCTTCTTGTAAATTACATCTGTCTATGGTTTTCTT  
GGAGGGCCCACTTGTATCCTCTGGTTCTTCATTTATTGAGCACCTACTACATGCAAGGCACTGTACTAGGCGTGA  
GAAGCATATAGAGGCAAGAAAGAGATACCAAGATGCCATCTGTGTCTGGTTAGCAGAGCTGGACCAGTGGTGCC  
TTGGAGGGGATAAGCCAGCTGCAGCTGGGCTGTGTGGTTGACTTATGGGCCCAGCCAGCCAGGCTCAGGCCATGGC  
TCCCTTTTTCTTCTCACCTGATTTCTTGCTTATTCACTGAAGTTCTCCTGAAGAGGAACTGGGCCTGTTGCC  
CTTCTGTACCATTTATTTGCTCCCAATGTTTATGATAATAAAGGCACCGCTGATGGGGACCTCC

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**FIGURE 4904**

MGVPPFFSSLRCMVDLGPCWAGGLTAEMKLLALAGLLAILATPQPSEGAAPAVLGEVDTSLVLSSMEEAKQLVDK  
AYKERRESIKQRLRSGSASPMELLSYFKQPVAATRTAVRAADYLHVALDILLERKLRS LWRRPFNVTDVLT PAQLN  
VLSKSSGCAYQDVGVTCPEQDKYRTITGMCNNRRSPTLGASNRAFVRWLPAEYEDGFSLPYGWTPGVKRN GFPVA  
LARAVSNEIVRFPTDQLTPDQERSLMFMQWGQLLDHDLDFTEPAARASFVTGVNCETSCVQQPPCFPLKIPPND  
PRIKNQADCIPFFRSCPACPGSNITIRNQINALTSFVDASMVYGSEEPLARNLRNMSNQLGLLAVNQRFQDN GRA  
LLPFDNLHDDPCLLTNR SARIPCFLAGDTRSSEMPELTSMTHTLLREHNRLATELKS LNPRWDGERLYQEARKIV  
GAMVQIITYRDYLPVLGPTAMRKYLPTYRSYNDSDPRIANVFTNAFRYGHTLIQPFMFRLDNRYQPM EPNPRV  
PLSRVFFASWRVVLEGGIDPILRGLMATPAKLNRQNQIAVDEIRERLFEQVMRIGLDLPALNMQRSDHGLPGYN  
AWRRFCGLPQPETVGQLGTVLRNLKLARKLMEQYGTPNNIDIWMGGVSEPLKRKGRVGPLLACIIGTQFRKL RDG  
DRFWWENEGVFSMQQRQALAQISLPRIICDNTGITT VSKNNIFMSNSYPRDFVNCSTLPALNLASWREAS

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**FIGURE 4905**

TTCTTCCGCTCCTGCCCGGCTTGCCCCGGGAGCAACATCACCATCCGCAACCAGATCAACGCGCTCACTTCCTTC  
GTGGACGCCAGCATGGTGTACGGCAGCGAGGAGCCCCCTGGCCAGGAACCTGCGCAACATGTCCAACCAGCTGGGG  
CTGCTGGCCGTCAACCAGCGCTTCCAAGACAACGGCCGGGCCCCCTGCTGCCCTTTGACAACCTGCACGATGACCCC  
TGTCTCCTCACCAACCGCTCAGCGCGCATCCCCCTGCTTCTTGGCAGGTCAGCTTTGGGGTGGGGACCAGAGGTGG  
CATAGGAGATGTTCCCTGTTGGAGCCACAGGGACACCCGTTCCAGTGAGATGCCCGAGCTCACCTCCATGCACAC  
CCTCTTACTTCGGGAGCACCAACCGGCTGGCCACAGAGCTCAAGAGCCTGAACCCTAGGTGGGATGGGGAGAGGCT  
CTACCAGGAAGCCCCGAAGATCGTGGGGGCCATGGTCCAGGTAGGCCGTCTTGAACACCGGGCACACGGGATCCA  
GATGTGTCCCTGCAACATCCTAGCTGTGTGACCTTGGGCAAGTTCCTAACGCTCCTGAGCCTTGCCTTCTTCATC  
CATGAGGCTGTAAGGATTATAATACATATATGAAAACACCTTTCAGATAGTAAGTGCTTGACAAAGCCTCCTTCC  
CTTCCCTCTCCTTCTTCGCAGGTTTGCTCCCTGCAGTCTTCTTTCCCTGTGGGTCTGTTATTGGTGTGGGAGGGT  
TGAATGTTTGGTTTAGCGCCCAAGTAGCTGTTCAGTAAATTCTTCTTCCCTCCATCTCACTGTCACTCTTAGCTC  
CTTTACCCACTCACCTCTTCTTTTTTAAAATTAAAAAAATTATAGGGCTGGGCGCGGTGGCTCATGCCTGTAATCC  
CAGCACTTTGGGAGGCGGAGGCGGGTGGATCACGAGGTGAGGAGATCAAGACCATGCTGGCTAACACGGTGAAC  
CCCATCTCTACTAAAAATACAAAAATTAGCCGGGCGTGGTGGCGGGCACCTGTAGTCCCAGCTACTTGGGAGGCT  
GAGGCAGGAGAATGGCGTGAACCTGGCTGGAGTGCAGTGGTGCATCTTGGCTCACTGCAACCTCCACCTTTCAG  
GCTCAAGCCATTCTCCC

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**FIGURE 4906**

AGCCAGTTTGAAGTAGATCTGTACCAAATGAAACAGCCTGTCAGAGTCCTTTGGATTATCAGTACCGTCAGGAG  
ATCCTGAAGCTGGAGAATTCGGGTGGCAAGAAAAACCGACGAATCTTTACCTACACTGACTCTGATAGATACACC  
AATTTGGAGGAGCACTGTCAGAGAATGACCCTGCAGCCAGCGAGGTGCCTTCATTCTTGGTCGAGCGAATGGCA  
AATGTCAGGCGTCGCCGGCAGGACAGGCGAGGGATGGAGGGCGGCATCCTCAAGTCACGCATCGTCACCTGGGAG  
CCCTCAGAAGAGTTTGTTCAGGAACAACCACGTCATTAACACCCCTCTTCAGACAATGCACATCATGGCAGACCTG  
GGGCCCTATAAAAAGCTTGGCTATAAGAAGTATGAACATGTCCTGTGTACTCTGAAGGTGGATAGCAATGGTGTG  
ATCACAGTAAAGCCTGACTTCACGGGCCTCAAAGGACCCTACAGGATTGAGACGGAGGGGGAGAAGCAGGAGCTG  
TGGAAATATACGATCGACAATGTTTCCCCCACGCACAGCCGGAGGAGGAGGAGCGGGAACGGCGAGTGTTCAAG  
GATCTTTATGGCCGGCACAAGGAGTATCTCAGCAGCCTCGTAGGCACCGACTTTGAGATGACTGTCCCAGGTGCC  
CTCCGGCTCTTTGTAAATGGAGAGGTGCTTTTACGCCAAGGCTATGAGTATGACAATCTCTACGTCCACTTCTTT  
GTAGAATTGCCAACTGCTCACTGGTCAAGCCCAGCATTCCAGCAGCTCTCAGGAGTAACACAGACCTGCACCACC  
AAGTCCCTGGCAATGGACAAGGTGGCTCACTTCTCTACCCATTACGTTTGAAGCCTTCTTCTCCATGAGGAT  
GAATCTTCTGATGCACTCCCGGAGTGGCCTGTGCTCTACTGTGAGGTCTCTCGCTGGACTTCTGGCAGAGGTAC  
CGTGTGGAAGGCTATGGGGCTGTGGTGTGCTGCCACTCCAGGCTCACACACCCTGACAGTCTCCACGTGGAGA  
CCTGTGGAGCTTGGCACGGTGGCTGAGCTGAGGAGGTTTTTTCATTGGCGGTTCTCTGGAACCTGGAGGACCTCTCC  
TATGTACGGATACCAGGATCCTTCAAGGGGGAACGCCTGAGCCGCTTTGGACTCCGCACAGAGACCACAGGCACT  
GTCACCTTCCGCTTGCACTGTCTGCAGCAGTCCAGGGCCTTCATGGAATCGAGCTCCCTTCAGAAAAGGATGCGG  
AGTGTGTTGGACCGTCTGGAAGGGTTTCAGCCAGCAGAGTTCCATTACAATGTGCTAGAGGCCCTCCGTCGAGCC  
CGGCGCCGCATGCAGGAGGCCCGGGAAAGCCTCCCGCAGGACCTAGTGAGCCCCCTCTGGAACCTGGTCTCCTAG

CTCACAGCAGCCCTGGCCACAGTGCAAGAGGACAAGATGGGGGATATCTGAGGCCAGTGCTCTCCTGCCTCTTC  
GTCTTTCTGATTAGAGACCACGTTGGTCTGCTGAGAACCAGAAAAGCTGGGAAATTCCTGGCTGGCCCCCTCTGCC  
TAGCCTTCTGCAGGGTCTTCTCCCTACCCGTGGAAATAAAGCCAGAGACCCTGTGGCCCCCTTTATATTTGC  
AGCCACTGTCAGATGGGCATCACAGCAAGGCAGGCTTTTTGATCTGAAGCTGTTTGGGGTGACCCCATAGTGAGT  
CTGGCCTTGACTCACTTTTTCTGGCTTGTACTCACAGTAGCAGGGGATCTGCTGTTCTCCACCCTTTAAAAATGGA  
GCCTTTTCATCTTCCAAGACCAAGAAGGAAGGTGGACGGTGAGAGGGTCTTAAATCCCCAGCCTGTGAGTC  
TCAGCCTCTTTCCAGGGAAGCCTCATTCTACTGCTTGGGGCTTGCTGAGGTTGAGATATGAGTTATTTCTGAGTA  
AGTGAAGGCTGAAGGCAGTGCTGAGTCCTTTCTGCTAGCTGGGTGGTATCTTTTACTGTGTTTTTTTGTGTTGTT  
GTTTTTTTGTGTTTTTTGTACATAAACCCCTTTTATTTTGGAAAAAAAAAAAAAAAAA

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**FIGURE 4907**

MTTAASEVPSFLVERMANVRRRRQDRRGMEGGILKSRIVTWEPSEEFVRNNHVINTPLQTMHIMADLGPYKKLGY  
KKYEHVLC TLKVDSNGVITVKPDF TGLKGPYRIETEGEKQELWKYTIDNVSPHAQPEEEERERRVFKDLYGRHKE  
YLSSLVGTD FEMTVPGALRLFVNGEVVSAQGYEYDONLYVHFFVELPTAHWSSPAFQQLSGVTQTCTTKSLAMDKV  
AHFSYPFTFEAFFLHEDESSDALPEWPVLYCEVLSLDFWQRYRVEGYGAVVLPATPGSHTLTVSTWRPVELGTVA  
ELRRFFIGGSLELEDLSYVRIPGSFKGERLSRFGRLRTETTGTVTFRHLCLQQSRAFMESSLQKRMRSVLDRLLEG  
FSQQSSIHNVL EAFRRARRRMQEARES LPQDLVSPSGTLVS



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**FIGURE 4908**

GGCCTGTTCTCGAGTCCGCGCTTTTCGTCAACCGCCATGTCGGGAGGTGGTGTGATTTCGTGGCCCCGCAGGGAACA  
ACGATTGCCGCATCTACGTGGGTAACCTTACCTCCAGACATCCGAACCAAGGACATTGAGGACGTGTTCTACAAAT  
ACGGCGCTATCCGCGACATCGACCTCAAGAATCGCCGCGGGGGACCGCCCTTCGCCTTCGTTGAGTTCGAGGACC  
CGCGAGACGCGGAAGACGCGGTGTATGGTCGCGACGGCTATGATTACGATGGGTACCGTCTGCGGGTGGAGTTTC  
CTCGAAGCGGCCGTGGAACAGGCCGAGGCGGCGGGGGTGGAGGTGGCGGAGCTCCCCGAGGTGCTATGGCC  
CCCCATCCAGGCGGTCTGAAAACAGAGTGGTTGTCTCTGGACTGCCTCCAAGTGGAAGTTGGCAGGATTTAAAGG  
ATCACATGCGTGAAGCAGGTGATGTATGTTATGCTGATGTTTACCGAGATGGCACTGGTGTCTGGAGTTTGTAC  
GGAAAGAAGATATGACCTATGCAGTTCGAAAACCTGGATAACACTAAGTTTAGATCTCATGAGGGAGAACTGCCT  
ACATCCGGGTTAAAGTTGATGGGCCAGAGTCCAAGTTATGGAAGATCTCGATCTCGAAGCCGTAGTCGTAGCA  
GAAGCCGTAGCAGAAGCAACAGCAGGAGTCGCAGTTACTCCCCAAGGAGAAGCAGAGGATCACCACGCTATTCTC  
CCCGTCATAGCAGATCTCGCTCTCGTACATAAGATGATTGGTGACACTTTTTGTAGAACCCTATGTTGTATACAGT  
TTTCCTTTATTTCAGTACAATCTTTTCATTTTTTAATTCAAACCTGTTTTGTTTCAGAATGGGCTAAAGTGTTGAATT  
GCATTCTTGTAATATCCCTTGCTCCTAACATCTACATTCCCTTCGTGTCTTTGATAAATTGTATTTAAGTGAT  
GTCATAGACAGGATTGTTTAAATTTAGTTAACTCCATACTCTTCAGACTGTGATATTGTGTAATGTCTATCTGC  
CCTGGTTTGTGTGAACCTGGGATGTTGGGGGTGTTTGTTGTTATCTTACCTGGGGAAGTTCTATGTTTATCTTGC  
TTTTCATGTGTCTTTCTGTAGACATATCTGAAGAGATGGATTAAAGAATGCTTTGGATTAAAGGATTGTGGAGCACA  
TTTCAATCATTTTAGGATTGTCAAAGGAGGATTGAGGAGGATCAGATCAATAATGGAGGCAATGGTATGACTCC  
AAGTGCTATTGTACAGATGAAATTGGCAGTATTGACCTTATACTAAAAGGCAGGGGTAAAAATGATTATATAC  
ATTTTCCTTAAACACTTGCAAACATTTTATTTCAGTTGTCTTTAGCTACAATTGCTTTGCTTTTTAAACCTTGGC  
AATTGTGGCAAATATATTGCCCATTTTGTAGCAACTTATTTTGCTCCCTTCCCCCATTTTGTTTAATAGG  
GACTAATGTGGGAAGAAGTGGCTAATTTGTACAGTGCTTAGTTACAACCTGTTAATGTGTGACCTGCTGTTGGTG  
TACATGTGGGTACAGGGTGTTTTTAAATCCAACAAGATAGAGTATAATATCAATACTGCTAAATCTGCATGTCCT  
CTGTGTGACTGATAGAGCGTTGCTATTTTCATTTTTTTAAGACAAAATGAAAGCAAAATATAGAGTTCCAATGTAT  
TGGTGTAGATAATCTAGTTGGGAATACTTTTAAGTCTCACCTTCCCCTTTAACTAATATTTCATAATTGGTTCAT  
ATGTTTAAAAGACTTTAATTTACAAATTAAATTGCAAATGGGAGCATTAGATTTAGTTTTAGACTTAGGTGGGTA  
GCAATGCCAGTAAACTTAAATTACGTAACCTTCTTGCAACCACGAAACCTGTAATACGCTGTACAGTAACAAGTGT  
TGGCATTATCAGTTGAACTGTAAATACAAAATGCTTCTCCAATTAGTCTCTATGATGATTAAAGTTTCTAAAAAT  
TATCTGAACACCATTTCAGAAACTTGTTTTGGGGAATTTGATAGTTATTGATGTGCATCTGTTAACTGATGACAG  
ACATAACTCATATTCCCAGAAACCTTTTTTGATTACAGTATCTAACATTTTGCCTCCTCTTTTTTGGTTTTTC  
TGGTTATAAAGTTTTGGATTGGAGAGGGCTCACTGGATCCCAATCCTTGGAGCTGGATCATTGGATTCAAATCAT  
AATGTGGATAGGATAGGGAGGATGAATTACCAGGATTCATGGAGCGGGATCAGATTACCAGGAACATAGGAGTGG  
ATTCTTGCCCCAACCAACCGCATTTCGTGTGGATTTTTTTATTCAACTTAATTGGCTATTCCAAAGATTTTTTTT  
TTCCTATTTTGGACGATTGGAGCCCTTAAGATGCACGATGGAATTGTGTTTTGCGTTTTTTGGTAAAGGAGCAA  
AGCGAGGACCTGGAGATAAACGCTGGAGCAATCTCCTTGAAGGATTCAGCACGAGTAGATGGTAAACATTTAA  
GGGAAAGGGGGGGTTTTGTTTAAATAGTAAATCAGTAAGTCACTTCTAAATTTAAAGAAAACAAAATTGGAGTT  
GAAGAATAAGTAGGTTTCCAATTGGCTATTGCCGTTTTCTTTGAAAAATAAACATTTTTTAAAAACAAAAAA  
AAAAAA

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**FIGURE 4909**

MSGGGVIRGPAGNNDCRIYVGNLPPDIRTKDIEDVFYKYGAIRDIDLKNRRGGPPFAFVEFEDPRDAEDAVYGRD  
GYDYDGYRLRVEFPRSGRGTGRGGGGGGGGGAPRGYGPSSRRSEN RVVVSGLPPSGSWQDLKDHMREAGDVCYA  
DVYRDGTGVVEFVRKEDMTYAVRKLDNTKFRSHEGETAYIRVKVDGPRSPSYGRSRSRSRSRSRSRSRSRNSRSRS  
YSPRRSRGSPRYSPRHSRSRST

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**FIGURE 4910**

ATGGGTAAGATCCGGAAGGCCCAAGGAGAAGGGCTGCCCCGCCCCTGCCCCCTGCTGGTCCAGCCCAACCTCCCC  
TTTGGGTACCCAGTCCACGGAGTGGAGGTGATGCCCCTGCACACGGTTCCCATCCCAGGCCTCCAGTTTGAAGGA  
CCCGATGCCCCCGTCTATGAGGTACCCCTGACAGCTTCTCTGGGGACACTGAACACCCTTGCTGATGTCCCAGAC  
AGTGTGGTGCAGGGCAGAGGCCAGAAGCAGCTGATCATTCTACCAGTGACCGGAAGCTGTTGAAGTTCATTCTT  
CAGCACGTGACATACACCAGCACGGGGTACCAGCACCAGAAGTACTATCCCCACATTGCCATTGACCCCATAGAG  
CCACTCGAGGAGAGAACAAATCATGCTGTGCGCTTTGCACCTGTGAGTCTGGAGTCCAGGTCCTCAGTGGCCAAG  
TTTCCAGTGACCATCCGCCATCCTGTCATACCCAAGCTATACGACCCTGGACCAGTGTTCTTTCAGTGTAGTCTT  
AATCAGACTATTCAACTCCTCATCCCCAGACACTGGTAGTATCTGGCACCAGGTGGGGTGGGAAGACAACCCGT  
GAGTATTACACCTTCATGTGGGTACTTTGCCCATTGACCTAAACAACAAATCAGCTAAACAGCAGGAAGTCCAA  
TTCAAAGCTTACTACCTGCCCAAGGATGATGAGTATTACCAGTTCTGCTATGTGGATGAGGATGGTGTGGTCCGG  
GGAGCAAGTATTCTTTCCAATTCCGTCCAGAAAATGAGGAAGACATCCTGGTTGTTACCACTCAGGGAGAGGTG  
GAAGAGATTGAGCAGCACACAAGGAGCTTTGCAAAGAAAACCAGGAGCTGAAGGACAGCTGTATCAGCCTCCAG  
AAGCAGAACTCAGACATGCAGGCTGAGCTCCAAAAGAAGCAGTATCTTTGA

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**FIGURE 4911**

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**FIGURE 4912**

MEETIKDPPTSAVLLDHCHFSQVIFNSVEKFYIPGGDVTCHYTFTQHFIPRRKDWIGIFRVGWKTTREYYTFMWV  
TLPIDLNNKSAKQQEVQFKAYYLPKDDEYYQFCYVDEDDGVVRGASIPFQFRPENEEDILVVTTQGEVEEIEQHKN  
ELCKENQELKDSCISLQKQNSDMQAELOKKQEELETLSINKKLELVKEQKDYWETELLQLKEQNQKMSSENEK  
MGIRVDQLQAQLSTQEKEMEKLQGDQDKTEQLEQLKKENDHLFLSLTEQRKDQKKLEQTVEQMKQNETTAMKKQ  
QELMDENFDLSKRLSENEIICNALQRQKERLEGENDLLKRENSRLLSYMGLDFNSLPYQVFTSDEGGARQNPGLA  
YGNPYSGIQESSPSPLSIKKCPICKADDICDHTLEQQQMQLCFNCPICDKIFFATEKQIFEDHVFCHSL

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**FIGURE 4913**

AAAAAATGCTTCTGTGCTCTAAGATATATATGTGTGTGTGTGTGCTACATATATATTTTTTAAGAAAGGACCATC  
TCTTTAGGATATATTTTTTAAATTCTTTGAAACACATAACCAAAATGGTTTGATTCACTGACTGACTTTGAAGCTG  
CATCTGCCAGTTACACCCCAAATGGCTTTAATCCCCCTCTCGGGTCTGGTTGCCTTTTGCAGTTTGGGTTGTGGAC  
TCAGCTCCTGTGAGGGGTCTGGTTAGGAGAGAGCCATTTTTAAGGACAGGGAGTTTTATAGCCCTTTTCTACTTT  
CCTCCCCCTCCTCCAGTCCTTATCAATCTTTTTTCTTTTTCTGACCCCTCCTTCTGGAGGCAGTTGGGAGCT  
ATCCTTGTTTTATGCCTCACTATTGGCAGAAAAGACCCCATTTAAAACCCAGAGAACACTGGAGGGGGATGCTCTA  
GTTGGTTCTGTGTCCATTTTTCTCTGTGCCAAAGACAGACAGACAGAGGCTGAGAGAGGCTGTTCTGAATCAAA  
GCAATAGCCAGCTTTTGACACATACCTGGCTGTCTGAGGAGGAAGGCCTCCTGGAACTGGGAGCTAAGGGCGAG  
GCCCTTCCCTTCAGAGGCTCCTGGGGGATTAGGGTGTGGTGTGTTGCCAAGCCAAGGGGTAGGGAGCCGAGAAATT  
GGTCTGTGCGGCTCCTGGTTGCATTTGGGGAAGGAGAGGAAGTTGGGGCTCCAGGTAGCTCCCTGTTGTGGGAC  
TGCTCTGTCCCTGCCCTACTGCAGAGATAGCACTGCCGAGTTCCCTTCAGGCCTGGCAGACGGGCAGTGAGGA  
GGGGCTCAGTTAGCTCTCAAGGTGCCTTCCCTCCTCCCAACCCAGACATACCCTCTGCCAACTGGGAACCA  
GCAGTGCTAGTAACCTCACAGAGCCCCAGAGGGCTGCTTGAGCCTTCTTGCTCCACAGGAGAAGCTGGTGC  
CTCTAGGCAACCCCTTCTCCACCTCTCATCAGGGGTGGGGTTCTCCTTTCTTTCCCTGAAGTGTGTTATGGG  
GAGATCCTAGTGGCTTTGCCATTCAAACCACTCGACTGTTTGCTGTTTCTTGAAAACCACTAGAGAAGGGAAACAG  
CACAGCCTGTACAGTAATTGCAGGAAGATTGAAGAAAAATCCTCATCAATGCCAGGGGACATAAAAGCCATTTT  
CCTTCCAAATACTCGACAATTTAGATGCAGAACATTTCTCTGTATTGAGACTTAGAGTAACACCAGCTGAAAAC  
GCAGTTTCTTTCTTTGGATACATAAGGCTTCTCTATCGGGGTACGGGACAGGGAGGAGGCCTCATGTCTGAAGG  
GGGATTTAGGGGCGAGAGCCCCAGCCCTGACCCTCGGTCTGTGCACCGCTTTGGGGCACAGTCTGATGGCGCCT  
TTGCTGGCGCCTTAGTAAGGTTGACTCCGGATGGACAAAAGAAAAAAATTTTTTTCTTGAATGAAATAGCAGG  
AAGCTCCTCGGGAGCATGTGTTTTGATTAAACCGCAGGTGATGGATGCTACGAGTATAAATGGATTAACCTACCTCA  
ATCCTTACAGTAAGATTGGAACCTAAGGGCAGGGACTCATGCATAAGGGTATGAATCCCAGCCAGGACAAGTGAGT  
TGAGGCTTGTGCCACAAAAGGTTTGTCTTGGGGAACAGGCAGGCCTGCCAGGATCCCCCATATCGATTGGGC  
TGGGAGGGCTGGCCATGAGGTCCCCACTTTCTGCTTTCTTGGCCATGTGTACCCCTTTGGCCTCCAGCTTGTC  
CCTCTCTCACTTTCTATAGCTTTGTTGGACCAGATGGTGAGGAAAGGAATGGCCTCTCCCTTCTAGAGGGGGCT  
GGCTGGAGTGAGACCTGGGGCTTGGCCTGGAACCCACCACACAGCCCCAAAGTCAGGAAGCCTGGGGAAACCAGA  
GCTGAGACCTCTTCAACAGGGTTTCTTTGAGATCCTACACCTCCATTGGGCCCTTTTTCAGTCTTCAATGGGGGC  
CCAGTTGGCTCTAGAAGGAGAAGAGGTGAAGCAGGATCCTTTGCCCTGGGGGAGTCTGAGGGCGCGGTCCTTGGA  
CTCATTACAGGCCGTCTTTGTAGTTGGGGGAGTTCCACTGGGCGATCCCAGCCCCCTCCCCACCCACCCTCTAATGG  
ACCTCCTCATAGAAGCCCCATTTCACTTTGTTTTATCTACCTCTTAGCAAAACAATAGATAAATTAGGTAGTGG  
CAGCTCCACTTGCTTAGGTTAGGGGGGGAAAAAGATTCTTTTTTCAAAGGAAAAAAATATTACCTTGAGAATAC  
TTTCCAAAAAATAAAATTAAAAA

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**FIGURE 4914**

MALIPSRVWLPFAVWVDSAPVRGLVRREPFLRTGSFIALFYFPLLPVLINLFSFFLTSPFWRQLGAILVYASL  
LAEKTPFKTQRTLEGDALVGSVSIFLCAKDRQTEAERGCS

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**FIGURE 4915**

GGGACGTGGAGACCCGGGGTCCCGGCAGCCGGGCGGCCCGCGGGCCAGGGTGGGGATGCACCGCCGCGGGGTGG  
GAGCTGGCGCCATCGCCAAGAAGAACTTGCAGAGGCCAAGTATAAGGAGCGAGGGACGGTCTTGGCTGAGGACC  
AGCTAGCCCAGATGTCAAAGCAGTTGGACATGTTCAAGACCAACCTGGAGGAATTTGCCAGCAAACACAAGCAGG  
AGATCCGGAAGAATCCTGAGTTCCGTGTGCAGTTCCAGGACATGTGTGCAACCATTTGGCGTGGATCCGCTGGCCT  
CTGGAAAAGGATTTTGGTCTGAGATGCTGGGCGTGGGGGACTTCTATTACGAACTAGGTGTCCAAATTATCGAAG  
TGTGCCTGGCGCTGAAGCATCGGAATGGAGGTCTGATAACTTTGGAGGAACTACATCAACAGGTGTTGAAGGGAA  
GGGGCAAGTTTCGCCCAGGATGTCAGTCAAGATGACCTGATCAGAGCCATCAAGAACTAAAGGCACTTGGCACTG  
GCTTCGGCATCATCCCTGTGGGCGGCACTTACCTCATTAGTCTGTTCCAGCTGAGCTCAATATGGATCACACCG  
TGGTGCTGCAGCTGGCAGAGAAGAATGGCTACGTGACTGTCAGTGAGATCAAAGCCAGTCTTAAATGGGAGACCG  
AGCGAGCGCGGCAAGTGCTGGAACACCTGCTGAAGGAAGGGTTGGCGTGGCTGGACTTACAGGCCCCAGGGGAGG  
CCCACTACTGGCTGCCAGCTCTCTTCACTGACCTCTACTCCCAGGAGATTACAGCTGAGGAGGCCAGAGAAGCCC  
TCCCCTGACTGCATGTGGAAGGGCACACAGCAGCAGGCAGGGAGGAGGCGGAGGTGGCAAATAAACCTGGGCAAT  
TTTGTTTATACAAAAAATAGAAAAAA



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**FIGURE 4916A**

AGCAGACGGGAGTTTCTCCTCGGGGTCGGAGCAGGAGGCACGCGGAGTGTGAGGCCACGCATGAGCGGACGCTAA  
CCCCCTCCCCAGCCACAAAGAGTCTACATGTCTAGGGTCTAGACATGTTTCAGCTTTGTGGACCTCCGGCTCCTGC  
TCCTCTTAGCGGCCACCGCCCTCCTGACGCACGGCCAAGAGGAAGGCCAAGTCGAGGGCCAAGACGAAGACATCC  
CACCAATCACTGCGTACAGAACGGCCTCAGGTACCATGACCGAGACGTGTGGAAACCCGAGCCCTGCCGGATCT  
GCGTCTGCGACAACGGCAAGGTGTTGTGCGATGACGTGATCTGTGACGAGACCAAGAACTGCCCGGCGCCGAAG  
TCCCCGAGGGCGAGTGCTGTCCCGTCTGCCCGACGGCTCAGAGTCACCCACCGACCAAGAAACCACCGCGCTCG  
AGGGACCCAAGGGAGACACTGGCCCCGAGGCCCAAGGGGACCCGACGGCCCCCTGGCCGAGATGGCATCCCTG  
GACAGCCTGGACTTCCCGGACCCCCCGGACCCCCGACCTCCCGGACCCCCCTGGCCTCGGAGGAACTTTGCTC  
CCCAGCTGTCTTATGGCTATGATGAGAAATCAACCGAGGAATTTCCGTGCTCGCCCCATGGGTCCCTCTGGTC  
CTCGTGGTCTCCCTGGCCCCCTGGTGCACCTGGTCCCCAAGGCTTCCAAGGTCCCCCTGGTGAGCCTGGCGAGC  
CTGGAGCTTCAGGTCCCATGGGTCCCCGAGGTCCCCAGGTCCCCCTGGAAAGAATGGAGATGATGGGGAAGCTG  
GAAACCTGGTCTGCTGGTGAGCGTGGGCCTCCTGGGCCTCAGGGTGCTCGAGGATTGCCCGGAACAGCTGGCC  
TCCCTGGAATGAAGGGACACAGAGGTTTCAGTGGTTTGGATGGTGCCAAGGGAGATGCTGGTCTGCTGGTCCTA  
AGGGTGAGCCTGGCAGCCCTGGTGAAAATGGAGCTCCTGGTCAGATGGGCCCCCGTGGCCTGCCTGGTGAGAGAG  
GTGCCCCCTGGAGCCCCCTGGCCCTGCTGGTGCTCGTGGAATGATGGTGCTACTGGTGCTGCCGGGCCCCCTGGTC  
CCACCGGCCCCGCTGGTCTCCTGGCTTCCCTGGTGCTGTTGGTGCTAAGGGTGAAGCTGGTCCCCAAGGGCCCC  
GAGGCTCTGAAGGTCCCCAGGGTGTGCGTGGTGAGCCTGGCCCCCTGGCCCTGCTGGTGCTGCTGGCCCTGCTG  
GAAACCTGGTGCTGATGGACAGCCTGGTGCTAAAGGTGCCAATGGTGCTCCTGGTATTGCTGGTGCTCCTGGCT  
TCCCTGGTGCCCCGAGGCCCTCTGGACCCCAGGGCCCCGGCGCCCTCCTGGTCCCAAGGGTAACAGCGGTGAAC  
CTGGTGCTCCTGGCAGCAAAGGAGACACTGGTGCTAAGGGAGAGCCTGGCCCTGTTGGTGTTCAAGGACCCCTG  
GCCCTGCTGGAGAGGAAGGAAAGCGAGGAGCTCGAGGTGAACCCGGACCCACTGGCCTGCCCGGACCCCTGGCG  
AGCGTGGTGACCTGGTAGCCGTGGTTTCCCTGGCGCAGATGGTGTTGCTGGTCCCAAGGGTCCCGCTGGTGAAC  
GTGGTTCTCCTGGCCCTGCTGGCCCCAAAGGATCTCCTGGTGAAGCTGGTCTGCTCCCGGTGAAGCTGGTCTGCCTG  
GTGCCAAGGGTCTGACTGGAAGCCCTGGCAGCCCTGGTCTGATGGCAAACTGGCCCCCTGGTCCCGCCGGTC  
AAGATGGTGCSCCGGACCCCGAGGCCACCTGGTGCCCGTGGTCAGGCTGGTGATGGGATTCCCTGGACCTA  
AAGGTGCTGCTGGAGAGCCCGCAAGGCTGGAGAGCGAGGTGTTCCCGGACCCCTGGCGCTGTGGTCTGCTG  
GCAAAGATGGAGAGGCTGGAGCTCAGGGACCCCTGGCCCTGCTGGTCCCGCTGGCGAGAGAGGTGAACAAGGCC  
CTGCTGGCTCCCCCGATTCCAGGGTCTCCCTGGTCTGCTGGTCTCCAGGTGAAGCAGGCAAACCTGGTGAAC  
AGGGTGTTTCTGGAGACCTTGGCGCCCCCTGGCCCCCTCTGGAGCAAGAGGCGAGAGAGGTTTCCCTGGCGAGCGTG  
GTGTGCAAGGTCCCCCTGGTCTGCTGGTCCCCGAGGGGCCAACGGTGCTCCCGGCAACGATGGTGCTAAGGGTG  
ATGCTGGTGCCCTGGAGCTCCCGGTAGCCAGGGCGCCCTGGCCTTCAGGGAATGCCTGGTGAACGTGGTGCAG  
CTGGTCTTCCAGGGCCTAAGGGTGACAGAGGTGATGCTGGTCCCAAAGGTGCTGATGGCTCTCCTGGCAAAGATG  
GCGTCCGTGGTCTGACTGGCCCCATTGGTCTCCTGGCCCTGCTGGTGCCCTGGTGACAAGGGTGAAAGTGGTC  
CCAGCGGCCCTGCTGGTCCCACTGGAGCTCGTGGTGCCCCCGGAGACCGTGGTGAGCCTGGTCCCCCGGCCCTG  
CTGGCTTTGCTGGCCCCCTGGTGCTGACGGCCAACCTGGTGCTAAAGGCGAACCTGGTGATGCTGGTGCTAAAG  
GCGATGCTGGTCCCCCTGGCCCTGCCGGACCCGCTGGACCCCTGGCCCCATTGGTAATGTTGGTGCTCCTGGAG  
CCAAAGGTGCTCGCGGCAGCGCTGGTCCCCCTGGTGCTACTGGTTTCCCTGGTGCTGCTGGCCGAGTCGGTCTC  
CTGGCCCCCTCTGGAAATGCTGGACCCCTGGCCCTCCTGGTCTGCTGGCAAAGAAGGCGGCAAAGGTCCCCGTG  
GTGAGACTGGCCCTGCTGGACGTCTGGTGAAGTTGGTCCCCCTGGTCCCCCTGGCCCTGCTGGCGAGAAAGGAT  
CCCCTGGTGCTGATGGTCTGCTGGTGCTCCTGGTACTCCCGGCCCTCAAGGTATTGCTGGACAGCGTGGTGCTG  
TCGGCCTGCCTGGTGACAGAGGAGAGAGAGGCTTCCCTGGTCTTCTGGCCCCCTCTGGTGAACCTGGCAAACAAG  
GTCCCTCTGGAGCAAGTGGTGAACGTGGTCCCCCTGGTCCCATGGGCCCCCTGGATTGGCTGGACCCCTGGTG  
AATCTGGACGTGAGGGGGCTCCTGGTGCCGAAGGTCCCCCTGGACGAGACGGTTCTCCTGGCGCCAAGGGTGACC  
GTGGTGAGACCGGCCCCGCTGGACCCCTGGTGCTCCTGGTGCTCCTGGTGCCCTGGCCCCGTGGCCCTGCTG  
GCAAGAGTGGTGATCGTGGTGAGACTGGTCTGCTGGTCCCACCGGTCTGTGCGCCCTGTTGGCGCCCCGTGGCC  
CCGCCGACCCCAAGGCCCCCGTGGTGACAAGGGTGAGACAGGCGAACAGGGCGACAGAGGCATAAAGGGTCACC  
GTGGCTTCTCTGGCCTCCAGGGTCCCCCTGGCCCTCCTGGCTCTCCTGGTGAACAAGGTCCCTCTGGAGCCTCTG  
GTCCTGCTGGTCCCCGAGGTCCCCCTGGCTCTGCTGGTGCTCCTGGCAAAGATGGACTCAACGGTCTCCTGGCC

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**FIGURE 4916B**

CCATTGGGCCCCCTGGTCCTCGCGGTGCGACTGGTGATGCTGGTCTGTGGTCCCCCGGCCCTCCTGGACCTC  
CTGGTCCCCCTGGTCCTCCCAGCGCTGGTTTCGACTTCAGCTTCCTGCCCCAGCCACCTCAAGAGAAGGCTCAGC  
ATGGTGGCCGCTACTACCGGGCTGATGATGCCAATGTGGTTTCGTGACCGTGACCTCGAGGTGGACACCACCTCA  
AGAGCCTGAGCCAGCAGATCGAGAACATCCGGAGCCCAGAGGGCAGCCGCAAGAACCCCGCCCGCACCTGCCGTG  
ACCTCAAGATGTGCCACTCTGACTGGAAGAGTGGAGAGTACTGGATTGACCCCAACCAAGGCTGCAACCTGGATG  
CCATCAAAGTCTTCTGCAACATGGAGACTGGTGAGACCTGCGTGTACCCCACTCAGCCCAGTGTGGCCCAAGA  
ACTGGTACATCAGCAAGAACCCCAAGGACAAGAGGCATGTCTGGTTCGGCGAGAGCATGACCGATGGATTCCAGT  
TCGAGTATGGCGGCCAGGGCTCCGACCCTGCCGATGTGGCCATCCAGCTGACCTTCCTGCGCCTGATGTCCACCG  
AGGCCTCCCAGAACATCACCTACCACTGCAAGAACAGCGTGGCCTACATGGACCAGCAGACTGGCAACCTCAAGA  
AGGCCCTGCTCCTCCAGGGCTCCAACGAGATCGAGATCCGCGCCGAGGGCAACAGCCGCTTCACCTACAGCGTCA  
CTGTGATGGCTGCACGAGTCACACCGGAGCCTGGGGCAAGACAGTGATTGAATACAAAACCACCAAGACCTCCC  
GCCTGCCCATCATCGATGTGGCCCCCTTGGACGTTGGTGCCCCAGACCAGGAATTCGGCTTCGACGTTGGCCCTG  
TCTGCTTCCTGTAAACTCCCTCCATCCCAACCTGGCTCCCTCCCACCCAACTTTCCCCCAACCCGGAAAC  
AGACAAGCAACCCAACTGAACCCCTCAAAAGCCAAAAAATGGGAGACAATTCACATGGACTTTGGAAAATAT  
TTTTTTCCTTTGCATTTCATCTCTCAAACCTTAGTTTTTATCTTTGACCAACCGAACATGACCAAAAACCAAAAGTG  
CATTCAACCTTACCAAAAAAAAAAAAAAAAAAAGAATAAATAAACTTTTTAAAAAAGGAAGCTTGGTCCACT  
TGCTTGAAGACCCATGCGGGGGTAAGTCCCTTTCTGCCCCGTTGGGCTTATGAAACCCCAATGCTGCCCTTTCTGC  
TCCTTTCTCCACACCCCCCTTGGGGCCTCCCTCCACTCCTTCCCAAATCTGTCTCCCCAGAAGACACAGGAAC  
AATGTATTGTCTGCCAGCAATCAAAGGCAATGCTCAAACACCCAAGTGGCCCCCACCCTCAGCCCGCTCCTGCC  
CGCCCAGCACCCCCAGGCCCTGGGGGACCTGGGGTTCTCAGACTGCCAAAGAAGCCTTGCCATCTGGCGCTCCCA  
TGGCTCTTGCAACATCTCCCTTCGTTTTTGAGGGGGTCA TGCCGGGGGAGCCACCAGCCCCCTCACTGGGTTCGG  
AGGAGAGTCAGGAAGGGCCACGACAAAGCAGAAACATCGGATTTGGGGAACGCGTGTCATCCCTTGTGCCGAG  
GGCTGGGCGGGAGAGACTGTTCTGTTCCTTGTGTAAGTGTGTTGCTGAAAGACTACCTCGTTCTTGTCTTGATGT  
GTCACCGGGGCAACTGCCTGGGGGCGGGGATGGGGGCAGGGTGGAAGCGGCTCCCCATTTTATACCAAAGGTGCT  
ACATCTATGTGATGGGTGGGGTGGGGAGGGAATCACTGGTGCTATAGAAATTGAGATGCCCCCCAGGCCAGCAA  
ATGTTCCCTTTTGTTCAAAGTCTATTTTTATTCCTTGATATTTTTCTTTTTTTTTTTTTTTTTTTTGTGGATGGGG  
ACTTGTGAATTTTCTAAAGGTGCTATTTAACATGGGAGGAGAGCGTGTGCGGCTCCAGCCCAGCCCGCTGCTCA  
CTTTCCACCCTCTCTCCACCTGCCTCTGGCTTCTCAGGCCTCTGCTCTCCGACCTCTCTCCTCTGAAACCCTCCT  
CCACAGCTGCAGCCCATCCTCCCGGCTCCCTCCTAGTCTGTCTGCTGCTCCTCTGTCCCCGGGTTTCAGAGACAAC  
TTCCCAAAGCACAAAGCAGTTTTTCCCCCTAGGGGTGGGAGGAAGCAAAAGACTCTGTACCTATTTTGTATGTGT  
ATAATAATTTGAGATGTTTTTAATTATTTTGATTGCTGGAATAAAGCATGTGGAAATGACCCAAACATAA

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**FIGURE 4917**

CCGTGTTGCTGATGCTGCCGTGCGGTACTTGTCAATGGAGCTGGCACTGCGGCGCTCTCCCGTCCCGCGGTGGTTGC  
TGCTGCTGCCGCTGCTGCTGGGCCTGAACGCAGGAGCTGTCAATTGACTGGCCACAGAGGAGGGCAAGGAAGTAT  
GGGATTATGTGACGGTCCGCAAGGATGCCTACATGTTCTGGTGGCTCTATTATGCCACCAACTCCTGCAAGAACT  
TCTCAGAACTGCCCCTGGTCATGTGGCTTCAGGGCGGTCCAGGCGGTTCTAGCACTGGATTTGGAAACTTTGAGG  
AAATTGGGCCCCCTTGACAGTGATCTCAAACCACGGAAAACCACCTGGCTCCAGGCTGCCAGTCTCCTATTTGTGG  
ATAATCCCGTGGGCACTGGGTTCA GTTATGTGAATGGTAGTGGTGCCTATGCCAAGGACCTGGCTATGGTGGCTT  
CAGACATGATGGTTCTCCTGAAGACCTTCTTCAGTTGCCACAAAGAATTCCAGACAGTTCCATTCTACATTTTCT  
CAGAGTCCTATGGAGGAAAAATGGCAGCTGGCATTGGTCTAGAGCTTTATAAGGCCATTTCAGCGAGGGACCATCA  
AGTGCAACTTTGCGGGGGTTGCCTTGGGTGATTCTGGATCTCCCCGTGGATTTCGGTGCTCTCTGGGGACCTT  
ACCTGTACAGCATGTCTCTTCTCGAAGACAAAGGTCTGGCAGAGGTGTCTAAGGTTGCAGAGCAAGTACTGAATG  
CCGTAAATAAGGGGCTCTACAGAGAGGCCACAGAGCTGTGGGGGAAAGCAGAAATGATCATTGAACAGAACACAG  
ATGGGGTGAACTTCTATAACATCTTAACTAAAAGCACTCCACGTCTACAATGGAGTCGAGTCTAGAATTCACAC  
AGAGCCACCTAGTTTGTCTTTGTCTAGCGCCACGTGAGACACCTACAACGAGATGCCCTTAAGCCAGCTCATGAATG  
GCCCCATCAGAAAAGAAGCTCAAAATTATTCTGAGGATCAATCCTGGGGAGGCCAGGCTACCAACGTCTTTGTGA  
ACATGGAGGAGGACTTCATGAAGCCAGTCATTAGCATTGTGGACGAGTTGCTGGAGGCAGGGATCAACGTGACGG  
TGTATAATGGACAGCTGGATCTCATCGTAGATAACCATGGGTGAGGAGGCCCTGGGTGCGGAAACTGAAGTGGCCAG  
AACTGCCTAAATTTCAGTCAGCTGAAGTGGAAGGCCCTGTACAGTGACCCTAAATCTTTGGAAACATCTGCTTTTG  
TCAAGTCCTACAAGAACCCTTGCTTTCTACTGGATTCTGAAAGCTGGTCATATGGTTCCTTCTGACCAAGGGGACA  
TGGCTCTGAAGATGATGAGACTGGTGA CTGAGCAAGAATAGGATGGATGGGGCTGGAGATGAGCTGGTTTGGCCT  
TGGGGCACAGAGCTGAGCTGAGGCCGCTGAAGCTGTAGGAAGCGCCATTCTTCCCTGTATCTAACTGGGGCTGTG  
ATCAAGAAGGTTCTGACCAGCTTCTGCAGAGGATAAAATCATTGTCTCTGGAGGCAATTTGGAAATTATTTCTGC  
TTCTTAAAAAACCTAAGATTTTTTAAAAAATTGATTTGTTTTGATCAAAATAAAGGATGATAATAGATATTATT  
TTTTCTTATGACAGAAGCAAATGATGTGATTTATAGAAAACTGGGAAATACAGGTACCCAAAGAGTAAATCAAC  
ATCTGTATACCCCCTTCCAGGGGTAAGCACTGTTACCAATTTAGCATATGTCCTTGCAGAATTTTTTTTTCTAT  
ATATACATATATATTTTTTACCAAAATGAATCATTACTCTATGTTGTTTTACTATTGTGTTGACATATCAGTATA  
TCTGAAACACCTTTTCATGTCAATAAATGTTCTTCTCTAACATTAA

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**FIGURE 4918**

MELALRRSPVPRWLLLLPLLLGLNAGAVIDWPTEEGKEVWDYVTVRKDAYMFWWLYYATNSCKNFSELPLVMWLQ  
GGPGGSSTGFGNFEEIGPLDSDLKPRKTTWLQAASLLFVDNPFVGTGFSYVNGSGAYAKDLAMVASDMMVLLKTFF  
SCHKEFQTVPFYIFSESYGGKMAAGIGLELYKAIQRGTIKCNFAGVALGDSWISPVDSVLSWGPYLYSMSLLEDK  
GLAEVSKVAEQVLNAVNGLYREATLWGKAEMIEQNTDGVNFYNILTKSTPTSTMESLEFTQSHLVCLCQRH  
VRHLQRDALSQLMNGPIRKKLKIIPEDQSWGGQATNVFVNMEEDFMKPVISIVDELLEAGINVTVYNGQLDLIVD  
TMGQEAWVRKLKWPPELPKFSQKWKALYSDPKSLETSAFVKS YKNLAFYWILKAGHMVPSDQGDMAKMMRLVTQ  
QE

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**FIGURE 4919**

CCGGACTGCGGAAGGATGGAGCTGGCCGCCGGAAGCTTCTCGGAGGAGCAGTTCTGGGAGGCCTGCGCCGAGCTC  
CAGCAGCCCCGCTCTGGCCGGGGCCGACTGGCAGCTCCTAGTGGAGACCTCGGGCATCAGCATCTACCGGCTGCTG  
GACAAGAAGACTGGACTTCATGAGTATAAAGTCTTTGGTGTTCTGGAGGACTGCTCACCAACTCTACTGGCAGAC  
ATCTATATGGACTCAGATTACAGAAAACAATGGGACCAGTATGTTAAAGAACTCTATGAACAAGAATGCAACGGA  
GAGACTGTGGTCTACTGGGAAGTGAAGTACCCTTTTCCCATGTCCAACAGAGACTATGTCTACCTTCGGCAGCGG  
CGAGACCTGGACATGGAAGGGAGGAAGATCCATGTGATCCTGGCCCGGAGCACCTCCATGCCTCAGCTTGCGGAG  
AGGTCTGGGGTGATCCGGGTGAAGCAATACAAGCAGAGCCTGGCGATTGAGAGTGACGGCAAGAAGGGGAGCAAA  
GTTTTCATGTATTACTTCGATAACCCGGGTGGCCAAATTCCGTCCTGGCTCATTAACTGGGCCGCCAAGAATGGA  
GTTCCCTAACCTTCTTGAAAGACATGGCAAGAGCCTGTGAGAACTACCTCAAGAAAACCTAAGAAAGAGAACTGGGA  
ACATTGCATCCATGGGTTGATGTCTCTGGAAGTGCAACCACCCAATGTCTCTGGAAGTGCCACCTGGAAGTGCCA  
CCTGGAAGTGTCTCTGGAAGAGCACCCACCACTGTTTCAGCCTTCCCCTGCTGTTTCTGTCTTCAGAGGCCTACAC  
ACTACCACATCCTTTCTAAGCATGTTTGCCTGACATCCAGCTCACTCGTCTGCTTCCTTTCTCGCTCCCCCATC  
CTGGGCTGGGCTGCCTTCTTCTACAGTTCAATATGGGGCAGACTAGGGAAACCTTTGCTTGCTTACTATTAGGAG  
GGGAAGTCTTCAGTAGGGAACACGATCATTCCATTGTGCAATTTTACGGGGATGGGTGGGCGGAGGGACACAACA  
AAATTTAAGAATGACTATTTGGGCGGGCTGGCTCTTTTGCAGCTTGATTTCTTCCAGCTTGGGAGGGGCTGCT  
GGAAGTGGCATTTCGTTTCAGAGCTGACTTTTCAGTGCACCCAACTGGATGACGTGCCAATGTCCATTTCCTTAT  
GCTTTGTGGAGCTGATTAGGCTGGGATTTGAGGTGATAATCCAGTAAGTCTTTCCTCGTTCCTACTTGTGGAGGA  
TCAGTAGCTGTTATGATGCCAGACCATTGGGAGAAGTATCAGAGGCCTGACCGGACACATAATACGACAACCACA  
TTTTTCCTCATCATCCATGAGGAAATGGATGATTTCTCTTTTCCATATGTCACTGGGGGAAAGGCTGCCTGTACC  
TCTCAAGCTTTGCATTTTACTGGAACTGAGGCGTCAAGATGGCTGTGGCAGCTAGCAAAAGCAAAGATGCTTTG  
TGCATAGCCTTGTGAAAAAGTATCTTTCTATGCAATAAGATGAATTTTCTCCAGAATATTTAGAAATGTAGAA  
GGGATAACAGTTCACAGCCAGGTAAAATTTAACTGGTGGCTTAATGACTCTGCACCTTTTTTCTCAGGAATTCTGC  
CTAAGTTGTCTGCCTTTTCTACCACCAAAAAGACTTTTAGTTTTCTATGCTTTTCTCCTGAATTTTGGTAGGGTAA  
GTATTTCTATGTCAAAGGCACAGCCTTGATGATCTCAGGGAAAAATTTAATCACTGTGTATAATGATACTGAAC  
CTTGATTAATAACAGAAATTCAGGATGTAAAGCCACAGAATGGGATTTATTAATGTGGGATACCTCAGACTGTTT,  
GTTTTCTTTCTGGGAAGAAAAGTGTGTTCTATAATGAATAAATATAGAGTGGTTTTT

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**FIGURE 4920**

MELAAGSFSEEQFWEACAELQQPALAGADWQLLVETSGISYRLLDKKTGLHEYKVFGVLEDCSPTLLADIYMDS  
DYRKQWDQYVKELYEQECNGETVVYWEVKYPFPMSNRDYVYLRQRRDLMEGRKIHVILARSTSMPLGERSGVI  
RVKQYKQSLAIESDGKKGSKVFMYYFDNPGGQIPSWLINWAAKNGVPNFLKDMARACQNYLKKT

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**FIGURE 4921A**

CCGCCCCCGACCCGAGCTCTTTTCGTCTGCCTGCCAGTTTCCTGCGTCCCCGGAGAGGATCCTGCTGAGCCCAGCC  
TCCCCCTCCCCCTTCTCCTCCTCTCCCTTGGAGAGCCCCGGGCAGCCACTGCCCCGAGCCCCAGTGACAGGAGGA  
GACCATAACCCCCGACAGCGCCATGGCCCCAGATTCTGCCAATTCGTTTTTCAGGAGCATCTCCAGCTCCAGAACCT  
GGGTATCAACCCAGCAAACATTGGCTTCAGTACCCTGACTATGGAGTCTGACAAATTCATCTGCATTAGAGAAAA  
AGTAGGAGAGCAGGCCCAGGTGGTAATCATTGATATGAATGACCCAAGTAATCCAATTCGAAGACCAATTTTCAGC  
AGACAGCGCCATCATGAATCCAGCTAGCAAAGTAATTGCACTGAAAGCTGGGAAAACTCTTCAGATTTTTTAACAT  
TGAAATGAAAAGTAAAATGAAGGCTCATACCATGACTGATGATGTCACCTTTTGGAATGGATCTCTTTGAATAC  
GGTTGCTCTTGTTACGGATAATGCAGTTTATCACTGGAGTATGGAAGGAGAGTCTCAGCCAGTGAAAATGTTTGA  
TCGCCATTCTAGCCTTGCAGGGTGCCAGATTATCAATTACCGTACAGATGCAAAACAAAAGTGGTTACTTCTGAC  
TGGTATATCTGCACAGCAAATCGTGTGGTGGGAGCTATGCAGCTATATTCTGTAGATAGGAAAGTGTCTCAGCC  
CATTGAAGGACATGCAGCTAGCTTTGCACAGTTTAAAGATGGAAGGAAATGCAGAAGAATCAACGTTATTTTGTTT  
TGCAGTTCGGGGCCAAGCTGGAGGGAAGTTACATATTATTGAAGTTGGCACACCCTACAGGGAACCAGCCCTT  
TCCAAAGAAGGCAGTGGATGTCTTCTTCCCTCCAGAAGCACAAAATGATTTTCTGTGCAATGCAGATCAGTGA  
AAAGCATGATGTGGTGTCTTGATAACCAAGTATGGTTATATCCACCTCTATGATCTTGAGACTGGTACCTGCAT  
CTACATGAATAGAATCAGTGGAGAAACAATTTTTGTTACTGCACCTCATGAAGCCACAGCTGGAATAATTGGAGT  
AAACAGAAAGGGACAAGTCTGTGAGTGTGTGGAAGAAGAAAACATAATTCCTTACATCACCATGTTCTACA  
AAATCCTGATTTGGCTCTGAGAATGGCTGTACGTAATAACTTAGCCGGTGTGAAGAACTCTTGCCCGGAAATT  
TAATGCTCTTTTTGCCCAGGGAAATTACTCGGAGGCAGCAAAGGTGGCTGCTAATGCACCAAAGGGAATTCTTCG  
TACTCCAGACACTATCCGTCGGTTCAGAGTGTCCAGCCCAGCCAGGTCAAACCTTCTCCTCTACTTCAGTACTT  
TGGTATCCTTTTGGAACAGGGACAGCTCAACAAATACGAATCCTTAGAGCTTTGTAGGCCTGTACTTCAGCAAGG  
GCGAAAACAGCTTTTTGGAGAAATGGTTAAAAGAAGATAAGCTGGAATGTTCTGAAGAACTGGGTGATCTTGTGAA  
ATCTGTGGACCCTACATTGGCACTTAGTGTGTACCTAAGGGCTAACGTCCCAAATAAAGTCATTTCAGTGTCTTGC  
AGAAACAGGTCAAGTCCAAAAGATTGTTTTATATGCTAAAAAAGTTGGATACACTCCAGATTGGATATTTCTGCT  
GAGAAATGTAATGCGAATCAGTCCAGATCAGGGACAGCAGTTTGCCCAAATGTTAGTTCAAGATGAAGAGCCTCT  
TGCTGACATCACACAGATTGTAGATGTCTTTATGGAATACAATCTAATTCAGCAGTGTACTGCATTCTTGCTTGA  
TGCTCTGAAGAATAATCGCCCATCTGAAGGTCCTTTACAGACGCGGTTACTTGAGATGAACCTTATGCATGCGCC  
TCAAGTTGCAGATGCTATTCTAGGCAATCAGATGTTACACATTATGACCGGGCTCATATTGCTCAACTGTGTGA  
AAAGGCTGGCCTACTGCAGCGTGCAATTAGAACATTTCACTGATTTATATGATATAAAACGTGCAGTGGTTCACAC  
CCATCTTCTTAACCTGAGTGGTTAGTCAACTACTTTGGTTCCCTATCAGTAGAAGACTCCCTAGAATGTCTCAG  
AGCCATGCTGTCTGCCAACATCCGTCGAAATCTGCAGATTGTGTTCAGGTGGCTTCTAAATATCATGAACAACT  
GTCAACTCAGTCTCTGATTGAACTTTTTGAATCTTTCAAGAGTTTTGAAGGTCTCTTTTATTTTCTGGGATCCAT  
TGTTAACTTTAGCCAGGACCCAGATGTGCACTTTAAATATATTACAGGCAGCTTGCAAGACTGGGCAAATCAAAGA  
AGTAGAAAGAATCTGTAGAGAAAGCAACTGCTACGATCCTGAGCGAGTCAAGAATTTTCTTAAGGAAGCAAACT  
AACAGATCAGCTACCACTTATCATTGTGTGTGATCGATTGACTTTGTCCATGATTTGGTGCTCTATTTATATAG  
AAATAATCTTCAAAAGTATATAGAGATATATGTACAGAAGGTGAATCCAAGTCGACTTCCTGTAGTTATTGGAGG  
ATTACTTGATGTTGACTGTTCTGAAGATGTCAAAAACTTGATTCTTGTGTGAAGAGGTCAATTCTCTACTGA  
TGAGCTTGTTGCTGAGGTTGAAAAAGAAAACAGATTGAAACTGCTTCTGCCTTGCTAGAGGCCAGAATTCATGA  
GGGCTGTGAGGAGCCTGCTACTCACAATGCCTTAGCCAAAATCTACATAGACAGTAATAACAACCCGGAGAGATT  
TCTTCGTGAAAATCCCTACTATGACAGTCGCGTTGTTGGAAAGTATTGTGAGAAGAGAGATCCACATCTGGCCTG  
TGTTGCTTATGAACGTGGCCAATGTGATCTGGAACCTATTAATGTTTGCAATGAGAATTCCTCTTCAAAAGTCT  
TTCTCGCTACCTGGTACGTCGAAAGGATCCAGAATTGTGGGGCAGCGTGTGCTGGAAGCAATCCTTACAGGAG  
ACCCCTAATTGACCAGGTGTGACAAACAGCTTTGTCTGAGACTCAGGACCCTGAAGAAGTGTGAGTAAGTGTAA  
GGCTTTCATGACTGCAGACCTTCTAATGAACCTCATTGAACCTGCTGGAGAAAATTGTCCTTGATAACTCTGTATT  
CAGTGAACACAGGAATCTGCAAAACCTCCTTATCCTCACTGCAATTAAGGCTGACCGTACACGTGTTATGGAGTA  
TATTAACCGCTGGATAATTATGATGCCCCAGATATTGCCAATATCGCCATCAGCAATGAGCTGTTTGAAGAAGC  
ATTTGCCATTTTCCGGAAATTTGATGTCAATACTTCAGCAGTTCAGGTCTTAATTGAGCATATTGGAACTTGGA  
TCGGGCATATGAGTTTGCTGAACGTTGCAATGAACCTGCGGTCTGGAGTCAACTTGCAAAAGCCAGTTGCAGAA  
AGGAATGGTGAAAGAAGCCATTGATTCTTATATCAAAGCAGATGATCCTTCCTCCTACATGGAAGTTGTTTCAGGC

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**FIGURE 4921B**

TGCCAATACTAGTGGAACTGGGAAGAACTGGTGAAGTACTTGCAGATGGCCCGTAAGAAGGCTCGAGAGTCCTA  
TGTGGAGACAGAACTGATATTCGCACTGGCTAAAACAAACCGCCTTGCAGAGTTAGAAGAATTTATCAATGGACC  
AAATAATGCTCATATCCAACAAGTTGGTGACCGTTGTTATGATGAAAAAATGTATGATGCTGCTAAGTTGTTGTA  
CAATAATGTTTCCAATTTTGGACGTTTGGCATCTACCCTGGTTCACCTGGGTGAATATCAGGCAGCTGTTGATGG  
GGCTAGGAAAGCTAACAGTACTCGAACATGGAAAGAGGTCTGCTTCGCCTGTGTAGATGGGAAAGAATTCCGTCT  
TGCTCAGATGTGTGGACTTCATATTGTTGTACATGCAGATGAATTAGAAGAACTTATCAACTACTATCAGGATCG  
TGGCTATTTTGAAGAGCTGATCACCATGTTGGAAGCAGCACTGGGACTTGAGCGAGCTCACATGGGAATGTTTAC  
TGAATTAGCTATTCTATACTCTAAATTTAAGCCTCAGAAAATGAGGGAGCACCTGGAGCTGTTCTGGTCTAGAGT  
GAATATTTCCCAAGGTGCTAAGAGCTGCAGAACAAGCTCATCTTTGGGCAGAACTGGTGTTTTGTATGACAAGTA  
TGAAGAATATGATAATGCCATAATTACCATGATGAATCATCCAAGTATGCCTGGAAAGAAGGGCAATTCAAAGA  
TATCATTACCAAGGTTGCCAATGTGGAACATACTACAGAGCAATACAGTTCTACTTAGAATTCAGCCTCTGTT  
GTTAAATGATTTGCTGATGGTGTCTCTCCACGGTTGGATCACACTCGTGCAGTCAATTATTTAGCAAGGTTAA  
ACAGCTACCACTGGTGAAACCGTATTTGCGTTGAGTTGAGAACATAACAACAAATCTGTGAATGAATCATTGAA  
CAATCTTTTTTATTACAGAAGAAGATTATCAGGCTCTGCGAACATCAATAGATGCTTATGACAACTTTGACAATAT  
CTCGCTTGCTCAGCGTTTGGAAAAACATGAACCTATTGAGTTTCAAGGAGAATTGCTGCTTATCTCTTCAAAGGCAA  
CAATCGCTGGAAACAGAGTGTAGAGCTGTGCAAGAAAGACAGCCTTTACAAGGATGCAATGCAGTATGCTTCTGA  
ATCTAAAGATACTGAATTGGCTGAAGAACTCCTGCAGTGGTTTTTGCAGGAAGAAAAAGAGAGTGCTTTGGAGC  
TTGTCTGTTTACCTGTTACGATCTTTTAAGGCCAGATGTCGTCTTAGAAACTGCATGGAGGCACAAATATCATGGA  
TTTTGCCATGCCCTATTTATCCAGGTCATGAAGGAGTACTTGACAAAGGTGGATAAAATTAGATGCTTCAGAATC  
ACTGAGAAAAGAAGAACAAGCTACAGAGACACAACCCATTGTTTATGGTCAGCCCCAGTTGATGCTGACAGC  
AGGACCCAGTGTTGCCGTCCCTCCCCAGGCACCTTTTGTTATGGTTATACCGCACCAACCGTATGGACAGCCACA  
GCCTGGCTTTGGGTACAGCATGTGAGATGAAGCGCTGATCCTGTAGTCACCTATTTTCGTACTGAAACATCGTCT  
TTACCCACTTCTCAGTTTATAATGGGGGAAAACAGGCAACGTGTTCTTGTAACCTTTATTTTCATGAAGGACTTCT  
TTTTGTTTCTAACTATAAACTTGGATCACCTATGTTAAACCTTATTTTACATTCCACATCATTTTAGAATTTAT  
TTTCGAAGGGGAATAGTTTCAATGTTTTATTCACTTGGGCTTTTTTTCTTCCCCCTCTTTCTTTAAAGAACTGCT  
CAATATTCAATCTGTTGTGAAGAACCTGATTTGCACTCTGTAGTGTTTTAAAGAAACAAAGAACTCTAATATTGA  
ATCTCTTAAATTTAGTGATGTAAACAGCTTACAAATACGTATTGTCTAAATGCATTTAAATCTGTTTTATTCAA  
AGAAAAGCTAAAGCAAAAACACTGGCATATGACCATGCAAGACTGTCTAGTGCCAACAAAGACAACACTAATCAGC  
ACATCGTACACTGGATTGCAGTGCTTCCCAGATTATTGAAAAATGTTACAGACAACCTTGCTGATTTTTTAAATGA  
GCGTAAAAGGCCCTCTAACCTATGCAGGTTTCCCCATTATGCATATAGAAAATGCTAGTATGTTTTGCTCACTTC  
ATATGTAACAGGTGCCCTTATGTTGTGCTGTATCCTGTGCTTTTTCTGTGGGACCATTCATTTCAGGAGCAAAGA  
GCACCATGATTCCAATCTTGTGTGTGTTTACTAACCTTCCCTGAGGCTTGTGTATGTTGGATATTGTGGTGT  
TAGATCACTGAGTGATCAGAAGAGAGAAATTCAAACAAATATTGCTGTTCTTCAGTTTTGTTTGTGGAATTTGA  
AATTACTCAAATTTAAAAATAAATTACTGGACTGTGG



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**FIGURE 4922**

MAQILPIRFQEHLLQLQNLGINPANIGFSTLTMESDKFICIREKVGEQAQVVIIDMNDPSNPIRRPI SADS AIMNP  
ASKVIALKAGKTLQIFNIEMKSKMKAHTMTDDVTFWKWISLNTVALVTDNAVYHWSMEGESQPVKMFDRHSSLAG  
CQIINYRTDAKQKWLTLTGISAQQNRVVGAMQLYSVDRKVSQPIEGHAASFAQFKMEGNAAEESTLFCFAVRGQAG  
GKLHIIIEVGTPPTGNQPFPPKKAVDVFFPPEAQNDFPVAMQISEKHVDVFLITKYGYIHLYDLETGTCTIYMNRISG  
ETIFVTAPHEATAGIIGVNRKGQVLSVCVEEENIIPYITNVLQNPDLALRMAVRNNLAGAEELFARKFNALFAQG  
NYSEAAKVAANAPKGILRTPDTIRRFQSVPAQPGQTSPLLQYFGILLDQGQLNKYESLELCRPVLQQGRKQLLEK  
WLKEDKLECSEELGDLVKSVDPTLALSVYLRANVPNKVIQCFAETGQVQKIVLYAKKVGYPDWIFLLRNVMRIS  
PDQGGQFAQMLVQDEEPLADITQIVDVMEYNLIQQCTAFLLDALKNNRPSEGPLQTRLLEMNLMHAPQVADAIL  
GNQMFTHYDRAHIAQLCEKAGLLQRALEHFTDLYDIKRAVVHTHLLNPEWLVNYFGSLSVEDSLECLRAMLSANI  
RONLQICVQVASKYHEQLSTQSLIELFESFKSFEGFLFYFLGSIVNFSQDPDVHFKEYIQAACKTGQIKEVERICRE  
SNCYDPERVKNFLKEAKLTDQLPLIIVCDRFDVHDLVLYLYRNNLQKYIEIYVQKVNPSRLPVVIGGLLDVDCS  
EDVIKNLILVVRGQFSTDELVAEVEKRNRLKLLLPWLEARIHEGCEEPATHNALAKIYIDSNNNPERFLRENPHY  
DSRVVGKYCEKRDPHLACVAYERGQCDLELINVCNENSLFKSLSRYLVRKDPPELWGSVLLESNPYRRPLIDQVV  
QTALSETQDPPEEVSVTVKAFMTADLPNELIELLEKIVLDNSVFSEHRNLQNLILITAIKADRTRVMEYINRLDNY  
DAPDIANIAISNELFEEAFIFRKFDVNTSAVQVLIEHIGNLDRAVEFAERCNEPAVWSQLAKAQLQKGMVKEAI  
DSYIKADDPSSYMEVVQAANTSGNWEELVKYLQMARKKARES YVETELIFALAKTNRLAELEEFINGPNNNAHIQQ  
VGDRCYDEKMYDAKLLYNNVSNFGRLASTLVHLGEYQAAVDGARKANSTRTWKEVCFACVDGKEFRLAQMCGH  
IVVHADELEELINYYQDRGYFEELITMLEAALGLERAHMGMTLAILYSKFKPKQKMRHLELFWSRVNIPKVL R  
AAEQAHLWAEVLFLYDKYEEYD NAIITMMNHPTDAWKEGQFKDIITKVANVELYYRAIQFYLEFKPLLLNDLLMV  
LSPRLDHTRAVNYFSKVKQLPLVKPYLRSVQNHNNKSVNESLNNLFITEEDYQALRTSIDAYDNFDNISLAQRLE  
KHELIEFRRIAAYLFKGNRRWKQSVELCKKDSLYKDAMQYASESKDTELAEEELLQWFLQEEKRECFGACLFCTCYD  
LLRPDVVLETAWRHNIMDFAMPYFIQVMKEYLTKVDKLDASESLRKEEQATETQPIVYGQPQLMLTAGPSVAVP  
PQAPFGYGYTAPPYGPQPGFGYSM

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**FIGURE 4923**

TTTCCAGCCCCGGCCCCGGACCCCTGCAGCTGCAGAGATGTTGATGCCTAAGAAGAACTGGATTGCCATTTATGAA  
CTCCTTTTTTAAGGAGGGAGTCATGGTGGCCAAGAAGGATGTCCACATGCCTAAGCACCCGGAGCTGGCAGACAAG  
AATGTGCCCCAACCTTCATGTCATGAAGGCCATGCAGTCTCTCAAGTGCCGAGGCTACGTGAAAGAACAACCTTTGCC  
TGGAGACATTTCTACTGGTACCTTACCAATGAGTGTATCCAGTATCTCCGTGATTACCTTCATCTGCCCCCGGAG  
ATTGTGCCTGCCACCCTACGCCGTAGCCGTCCAGAGACTGGCAGGCCTCGGCCTAAAGGTCTGTATATGAGGAGT  
GCTGTGCTACCTGGTGGCGACAAGAAAGCCGAGGCTGGGGCTGGGTGAGCAACCGAATTCTAGTTTAGAGGCGGA  
TTTGGTTGTGGACGTGGTCAGCCACCTCAGTAAACTGGAGAGGATTCTTTTGCATTGAATAAATTTACAGCCAA  
AAAA

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**FIGURE 4924**

AACCGGCGCCAGCC**ATG**GCCTCTGGGGCGGGCGGAAGCTGGGGTTCGCTCCCCACCGCAGAGCGCAGTCCCGACGC  
CCTGGGTACCTTCTTGCAGCCCCCTCTCGTGGGCCGTCCCACCTGCGCCCCCGCAGCCAGGCCGCGTGAAGGAAG  
ACCTGCTGGAAGTATGATGCTGCAGAACGCGCAGATGCACCAGCTGCTGCTGAGTCGCCCTGGTGGTGGAGCGC  
TGCAGCCCCGGCTGCTCGCCCTGCCCTCAGGTCTACCTGGAGGTTCCACAGGAAGAGCCTGAGGAGGAGGAGG  
AGGAGATGGACGTGCGGGAGAAAAGGGCCTTTGGTGTTTTACCACCACTACTTGCCCTATTGATGCCCTCCCCGG  
GTGCCCTGCTGCCCTGGCCAGCCCCCTTCTTCCCCACCCTGCTTGTTCAGCCCTACTTGACGGACGTGCCCAGGA  
TTCAGCACTGTCTGCTCCAGGGAAGGGAGGTGAGAGCTGTGCCCCACCCCCACCCCCAGTGCCACAGGGA  
CTGTGGGTGCTGATGTACCCCCGGCTTCAGACTACTATGATGCCAGAGCCTCCTAT**TGAGG**ACAGACCCCCGGCCC  
TGGGAAGTGCACCAGCTTCTGCTCTGGATACAGCCCCGGAGCCGCTCCTGCACCTCTCTTGTGCTGACTCCCCGG  
TGCCCATGGCTGGCAGTCTTCTCACTCCCTCAACCTCAGCCAGGCCCTCTTCTCCTGGGGAAATCAGTCCCTGC  
CCCACGCCAATGAGTTCTTGACGGGCCGGATCTGTGCTGTTGTGTAAGAGCTCCCTAGAGCACCACCCAGGCC  
TTGAAGCCACGTGAGCCCCGCTCTGCCCCACTGCTTCTGCTGAGCAGGGGGAGGCCTGGGAACAGAGCCCCC  
ACCCTCTCTCCCTCACCCCTCTCTCTGGGATGATGAGGTCTCCTTCCAGCCTAGTAATGGAGCAAGAGGGGAGGG  
GGGGATTCTTCTGCTTTCACAGCTTTGAAGGCCCTTTGAGGTGGCTGGAGGGGGCCAGAGTGGTCCGGGGAGA  
GACTTTGCTGGGCAGCGCCCCGTGAGCAGAGTCAGTTCGCTGGGCCCCCCACCCCTCATCCAGGAAGCAGCTCTG  
TTGGCAGAAAGGAGAGGTGAGAGCTTTGTCTGCTGTGGCCAGGAGTGGCCTGAGGTCTCCTGGGGCCAGGTGGG  
AACAGTGTGCTCTGCCCCCTGGGCCAGGGTGTGTTTCCCCACCCTCCCTCAGTAGCAATGAGCTACTCGGGC  
CAGATGGGGGCTGTGTCATGGGCTGGGAGGCCCTGTGAAGGAGAGGGTGGGGAGGGAGGCATCTAGGGAGAGG  
GGTCCCCCATGGTGGCTCCCCCTCCCTGGCCATTGTTATCCAGGAGGAGACACTGTGGGCACAGGGCTAAGTCCA  
GGTGTGTTGATTGGGGCTAGAAAAGGCAATGTCCCAAGTCTCTGCTGCCTGTACAGTCTTTCAGCCAGGGCTGG  
ACCTCAACCCTGAGGAGTCACACTGAGTTCAGTGACCACCGTGGTGGTGGCCATGCCACTCATGGTTGCTATGG  
CCGGAAGGCTGGGGCAGCCTCCTCCAAGCCGCTCGCACCCCGTAGGTGCCCATCCGCTGCTGGCGCAAGTGCTG  
GCCGAAGATGAAGCAGAGCAGGACAGATGTCACGAACAGGGACAGCAACACCGACACCACCGTGACTATGATGAC  
CATCTGGCTGTCCGACACAGGCTCTGGGGAGGGAGGGGGCAAGGGTCTTAGACGTCTGTGATCCCAGTTACCAG  
GGACCAAAAGGGAGTGGAAGTCCACCCCCAACCAGACCCCCAGACCCCGCCCGCCGCTCATGCATCCAGCAGTC  
ACCCAGTTGCAGAGATGAGTGGTGAATGGTGTCTGCATTAAATTATTATCTGGAAAAAAGGTGGCCAGGGCT  
CAGGCTACCAGCTGGACTTCTGTGTGGCTGTGAGGGCAGATGTCCCCTTGTTCAGCAGCCATGGGACCAGTGTGTA  
GCTGCTGGACACCGTGGCCTGGAGGGTGGCATGGTCCCAGCCAAGCCCCCTTCTTGGGCAGAGCTGAGTGAATTC  
ATGCCAGGCTCCCTGTGTGCCGGCCGTCCAGGGTCACCAAGCAGCAGAGCTCTGGGGACCTCAGTGGGGGCAGTC  
AGGCCAAACTTCTCATTGTGGAGGGGAGCCAAGGCCAGGGAGAGCCGTCAAGGTCATGGGGCTTGATGGTGGCCG  
AGGAACTAGTTGACCTCTCCCCGACCTCTGGAGCAGTTGAGGTCCAAGCTGGGGACTTGGAAGAAGTTCAGGGAA  
GAGGGAGAGTAAGAGGGAAGCCTCAGGATGAAGGGTGGGCTCCTGGGTGTTTGCTTCCCAAGTGGGACTCAAGAT  
TTTTCTTCCCCGAGGGGCTGAAAGTGACTTATCACTCCCAACTCCATCCACGGATCCCCCTCACCATAGATCT  
CCAACATCTTCCGGGCTGAGTGTGTTGTGAAAGATGTTGCCACCGCGAGACATCAAGTCCAGCACAGCCAGGCAGG  
AGAAGTTGCGGTGGCCATCCTCTCTGTGACCCGTGCTGTTGAATGTGGCTGTGGCCTCCTGCGGAGCAGGGGCTG  
CCTTCCCGAAGGTCTCATAGTGCAGAGTCTCATTGCCACGGAACAGGAAGAGGGTGAAGGTGTCCAGGGGCTCCA  
CGGTGGGCACCTGCACTCAATGGTGAAGGACTTGCCACAGCCACCAAGTGGGTGTCAGTGTGAGGATGACCT  
GCCTTGGAGGCTCTGCAGGGGACAAAGGAGGGAGGTCTGGTCAGGATGGGGGTGAGTCCCAGCAGCCTCCCCCT  
GGCCAGGGCCATCTCCTGTACCATGGTGTTCACGGTTGGGGAGGAGGTGGCCTGGCCGGCTCCAGTGCAGAGA  
GGAAGAGGGCAGCAGTTGAGGATGGAGGCTGGACTGTGTGGTAGTTTTACAGACATGATGGTTTCCGGTGACCAG  
GTGTCTACAAGGACAAGGTTTCAAAATTGTACAGCCAAGTGGAAAGATATAAAAGTTTGGGTCTGTCTCCTCTCC  
TTCAGAAATGAAATATAAATTTCAAACATTAAACAGTTGGGTGATCACGTTG

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**FIGURE 4925**

MASGAGGSWGRSPPQSAVPTPWVTFLOPLSWAVPPAPPQGRVKEDLLELMMLQNAQMHQLLSRLVAGALQPRP  
ASPCPQVYLEVPQEEPEEEEEEMDVREKGPLVFHHHYLPYLMPSPGALLPWPAPFFFTPACQPYLQDVPRIQHCP  
ASREREVRAVPPPPPPSATGTVGADVPPASDYYDAESLL

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**FIGURE 4926**

GGCGGCCAAACCTCCGGAGGCCGGGGACGGAAGGCGGGCCCGCAGCAGATCCTGGATCCGGAATCTCCCGGGCAG  
GAGCGGAATCTGTCCCGAACCGGGTCTGTGAGGAACTCGCGAACTTGGATTAGGAAATCCCGGAGCCCGGATCGA  
CAAATCCCGGAACCCGGAATTAAGATCGCCAAGTCCCGGATCGCGGAGCACAGAGCACGGAGTGGACTCGACGCG  
GAGCCCGGAGTCCGGATCGCGGCACCGCGGGACGGGACGGAGCGATGTCGGGCCGAGGCGCGGGCGGGTTCCCGC  
TGCCCCCGCTAAGCCCTGGCGGGCGCGCCGTGGCTGCGGCCCTGGGAGCGCCGCCCTCCCCCGCGGGACCCGGCA  
TGCTGCCCCGACCGGCGCTCCGGGGACCGGGTCCGGCAGGAGGCGTGGGGGGCCCCGGGGCGCCGCCCTTCCGCC  
CCATGGGCCCCGCGGGCCCCGCGGCGCAGTACCAGCGACCTGGCATGTCACCAGGGAACCGGATGCCCATGGCTG  
GCTTGACAGGTGGGACCCCTGCTGGCTCCCCATTTGGTGCAGCAGCTCCGCTTCGACCTGGCATGCCACCCACCA  
TGATGGATCCATTCCGAAAACGCCTGCTTGTGCCCCAGGCGCAGCCTCCCATGCCTGCCAGCGCCGGGGTTAA  
AGAGGAGGAAGATGGCAGATAAGGTTCTACCTCAGCGAATCCGGGAGCTTGTTCCAGAGTCTCAGGCGTACATGG  
ATCTCTTGGCTTTTGAGCGGAAGCTGGACCAGACCATTGCTCGCAAGCGGATGGAGATCCAGGAGGCCATCAAAA  
AGCCTCTGACACAAAAGCGAAAGCTTCGGATCTACATTTCCAATACGTTTCAGTCCCAGCAAGGCGGAAGGCGATA  
GTGCAGGAAGTGCAGGGACCCCTGGGGGAACCCAGCAGGGGACAAGGTGGCTTCCTGGGAAGTCCGAGTGGAAAG  
GAAAAGTGTGGATGATCCTAGCAAACAGAAGAGGAAGTTTTCTTCATTCTTTAAGAGCCTCGTCATTGAGCTGG  
ACAAGGAGCTGTACGGGCCTGACAATCACCTGGTGGAGTGGCACCGGATGCCACCACCCAGGAGACAGATGGCT  
TCCAAGTAAAACGGCCTGGAGACCTCAACGTCAAGTGCACCCTCCTGCTCATGCTGGATCATCAGCCTCCCCAGT  
ACAAATTGGACCCCGATTGGCAAGGCTGCTGGGAGTGCACACGCAGACGAGGGCGCCCATCATGCAGGCCCTGT  
GGCTTTACATCAAGCACAAACCAGCTGCAGGATGGGCACGAGCGGGAGTACATCAACTGCAACCGTTACTTCCGCC  
AGATCTTCAGTTGTGGCCGACTCCGTTTCTCCGAGATTCCCATGAAGCTGGCAGGGTTGCTGCAGCATCCAGACC  
CCATTGTCATCAACCATGTCTATTAGTGTGACCCCTAACGACCAGAAGAAGACAGCCTGTTACGACATCGATGTGG  
AGGTGGACGACCCACTGAAGGCCCAAATGAGCAATTTTCTGGCCTCTACCACCAATCAGCAGGAGATCGCCTCCC  
TTGATGTCAAGATCCATGAGACCATTGAGTCCATCAACCAGCTGAAGACCCAGAGAGATTTTCATGCTCAGTTTTA  
GCACCGACCCCCAGGACTTCATCCAGGAATGGCTCCGTTCCCAGCGCCGAGACCTCAAGATCATCACTGATGTGA  
TTGGAAATCCTGAGGAGGAGAGACGAGCTGCTTTCTACCACCAGCCCTGGGCCAGGAAGCAGTAGGCAGGCACA  
TCTTTGCCAAGGTGCAGCAGCGAAGGCAGGAAGTGAACAGGTGCTGGGAATTCGCCTGACCTAACTGCTCAGGG  
ATCTTTCTTCCCAGCCCTGGAGCCTGGAGGGAGACCACCTCTGGGTCCCTTGCTGGGGCCGAGACACGTAGGCT  
GGGGTGAGGAGTGTCTGCTGTACCCCTCTACTCTCCAGCTTTAGTCTTATAAATGTAGTGATAGGATTCCTTGTT  
GCTTGGTCCCCAAAGCCTTATACTTTTTGCAATTGGCTTTAATTGGGTTCAGCAGATGCCTCCTCTGCCCCCTGC  
AGGCAGGCCCAAGTAGGACTGCTGGAGGCTGTGCTTTGACATTGTAAGACATTTCCGAACCAAGGCTGCTGGGT  
TTGCATGTTTACAGACTCCCCCTGGGGCGAGGGTCAGAGCTGGCTCTGGGGAGCTGGGCTAGGAAGAGGAGGTGC  
AGCCCAGACTCTTCCTAGCCTTTCTAAACCAAGTTCTTTGCCATTCTACAAGCCAGCCTTGCTGCTGGTTTTT  
TTCCTTTCTTTGGGIATTTGCACTATTTTGGGAGCAAGTTTCTATGTGGGAGCCACTTTTTTTGTACAGGGGT  
AAGTTGGGGGTTTTTCAGGGAGCCTGTTAGGTGCCTCCTTCTTTCTTCTTCAATCTATGCAAGCGGCTCTGGCC  
GCCATCATCTCCTGGGATGCCAGAGGGCTGCCTCTCCAGCGGCTTGGGCCGGGAGGGGACACTCCAGTTCTCTA  
GCATGGCCTGAGGTATGGGGTATGTGCATGTGGAGGCCAGGGTAAGGTGAATGGGGAGGCTGGGAGGACTGGTGT  
TGCCCTTTGGAGCTTGGTGAGGAGGGTGGGCCTAGGGCTTGCGGAGTGCCACATCTGGCAGGTTTGGAAATTTCC  
AAATAAATCCTTTTGTCT

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**FIGURE 4927**

ATGGCGCTTGACGGACCAGAGCAGATGGAGCTGGAGGAGGGGAAGGCAGGCAGCGGACTCCGCCAATATTATCTG  
TCCAAGATTGAAGAACTCCAGCTGATTGTGAATGATAAGAGCCAAAACCTCCGGAGGCTGCAGGCACAGAGGAAC  
GAACTAAATGCTAAAGTTCGCCTATTGCGGGAGGAGCTACAGCTGCTGCAGGAGCAGGGCTCCTATGTGGGGGAA  
GTAGTCCGGGGCCATGGATAAGAAGAAAGTGTGGTCAAGGTACATCCTGAAGGTAAATTTGTTGTAGACGTGGAC  
AAAAACATTGACATCAATGATGTGACACCCAATTGCCGGGTGGCTCTAAGGAATGACAGCTACACTCTGCACAAG  
ATCCTGCCCCAACAAGGTAGACCCATTAGTGTCACTGATGATGGTGGAGAAAGTACCAGATTCAACTTATGAGATG  
ATTGGTGGACTGGACAAACAGATCAAGGAGATCAAAGAAGTGATCGAGCTGCCTGTTAAGCATCCTGAGCTCTTC  
GAAGCACTGGGCATTGCTCAGCCCAAGGGAGTGTGCTGTATGGACCTCCAGGCACTGGGAAGACACTGTTGGCC  
CGGGCTGTGGCTCATCATACGGACTGTACCTTTATTCGTGTCTCTGGCTCTGAAGTGGTACAGAAATTCATAGGG  
GAAGGGGCAAGAAATGGTGAGGGAGCTGTTTGTGTCATGGCACGGGAACATGCTCCATCTATCATCTTCATGGACGAA  
ATCGACTCCATCGGCTCCTCGCGGCTGGAGGGGGTTCTGGAGGGGACAGTGAAGTGCAGCGCACGATGCTGGAG  
TTGCTCAACCAGCTCGACGGCTTTGAGGCCACCAAGAACATCAAGGTTATCATGGCTACTAATAGGATTGATATC  
CTGGACTCGGCACTGCTTCGCCCAGGGCGCATTGACAGAAAAATTGAATCCCCACCCCCCAATGAGGAGGCCCGG  
CTGGACATTTTGAAGATTCATTCTCGGAAGATGAACCTGACCCGGGGGATCAACCTGAGAAAAATTGCTGAGCTC  
ATGCCAGGAGCATCAGGGGCTGAAGTGAAGGGCGTGTGCACAGAAGCTGGCATGTATGCCCTGCGAGAACGGCGA  
GTCCATGTCACTCAGGAGGACTTTGAGATGGCAGTAGCCAAGGTCATGCAGAAGGACAGTGAGAAAAACATGTCC  
ATCAAGAAATTATGGAAGTGAAGTGGACAGCCTTTGTGTGTATCTCTCCAATAAAGCTCTGTGGGCCAAGTC

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**FIGURE 4928**

MALDGPEQMELEEGKAGSGLRQYYLSKIEELQLIVNDKSONLRRLOAQRNELNAKVRLIREELQLLOEQGSYVGE  
VVRAMDKKKVLVKVHPEGKFVVDVDKNIDINDVTPNCRVALRNDSTLHKILPNKVDPVLSLMMVEKVPDSTYEM  
IGGLDKQIKEIKEVIELPVKHPELFEALGIAQPKGVLVLYGPPGTGKTLLARAVAHHTDCTFIRVSGSELVQKFIG  
EGARMVRELFVMAREHAPSIIFMDEIDSIGSSRLEGGSGGDSEVQRTMLELLNQLDGFATKNIKVIMATNRIDI  
LDSALLRPGRIDRKIEFPPPNEEARLDILKIHSRKMNLTRGINLRKIAELMPGASGAEVKGVCTEAGMYALRERR  
VHVTQEDFEMAVAKVMQKDSEKNMSIKKLWK

ATCTTTGTGCGGTTCCAAGTGTGTGGAGAAAGCGGCTCTGGGTCTAGATTGAGGGATACTCCCCCTTTCCACC**ATGG**  
GCAAGAAGGGCAAAGTTGGCAAGAGCCGACGAGACAAGTTTTATCACTTGGCGAAGGAGACGGGTTACCGTTCCCG  
GATCTGCTTTCAAGCTGATCCAGCTCAATCGCCGCTTTTCAGTTCTTGCAGAAAGCCCGAGCCTTGCTGGACCTGT  
GTGCTGCGCCAGGGGGATGGCTGCAGGTAGCTGCCAAGTTTATGCCTGTATCCAGCCTTATTGTGGGAGTGGACC  
TGGTTCCAATCAAGCCTCTCCCCAATGTGGTGACTCTCCAGGAGGACATCACAAACAGAACGTTGTAGGCAGGCCC  
TGAGGAAGGAGCTGAAGACCTGGAAGGTTGATGTTGTGCTCAATGATGGGGCCCCCAACGTTGGGGCTAGCTGGG  
TCCATGATGCTTACTCACAAAGCCATTGACACTGATGGCTCTACGTTTGGCTTGTGACTTTTTTGGCCCGTGGTG  
GCAGCTTCATCACAAAGGTTTTCCGTTCTCGTGACTATCAGCCTCTGCTATGGATCTTTCAGCAGCTGTTCCGCC  
GTGTCCAGGCCACCAAGCCCCAAGCCTCTCGCCATGAATCTGCAGAGATCTTTGTAGTCTGCCAAGGATTCTCTGG  
CCCCTGACAAGGTTGACAGTAAATTCTTTGACCCCAAATTTGCCTTTAAGGAGGTTGAAGTTCAGGCTAAGACCG  
TTACTGAATTGGTTACTAAGAAGAAGCCAAAGGCTGAAGGCTATGCTGAGGGTGACCTCACTCTCTATCACCGTA  
CCTCAGTCACTGACTTCTCTCCGAGCTGCCAACCTGTTGACTTCTCTCCAAGGCCAGCGAAATCATGGTAGATG  
ATGAAGAGTTGGCACAGCATCCAGCTACCACTGAGGACATACGGGTGTGCTGTGTCAGGACATCAGAGTGTGGGGC  
GCAAGGAGCTCAGGTCGCTACTAACTGGAGAACAAAACCTCGGCGATATGTGGCCAAGAAGCTGAAAGAACAAG  
CAAAGGCACTGGACATCAGCCTCAGCTCTGGAGAGGAAGATGAAGGTGATGAGGAGGACTCAACAGCTGGAACCA  
CAAAGCAGCCCTCTAAGGAGGAGGAGGAAGAGGAGGAGGAGGAACAACCTGAACCAGACCTTGGCAGAAATGAAGG  
CCCAGGAGGTGGCGGAATTGAAGAGGAAGAAAAAGAGCTGTTGCGTGAGCAGAGAAAGCAGCGGGAGCGTGTGG  
AGCTGAAGATGGATCTGCCTGGGGTTTTCCATTGCAGACGAGGGGGAGACTGGCATGTTCTCCTTGTGCACCATCC  
GGGGTCACCAAGTTATTAGAGGAAGTAACACAAGGGGATATGAGTGCAGCAGACACATTTCTGTCCGATCTGCCAA  
GGGATGATATCTATGTGTCAGATGTTGAGGACGACGGTGATGACACATCTCTGGATAGTGACCTGGATCCAGAGG  
AGCTGGCAGGAGTCAGGGGACATCAGGGTCTAAGGGACC AAAAGCGTATGCGACTTACTGAAGTGCAAGATGATA  
AAGAGGAGGAGGAGGAGGAGAATCCACTGCTGGTACCCTGGAGGAAAAGGCAGTACTGCAGGAAGAACAAGCCA  
ACCTGTGGTTCTCAAAGGGCAGCTTTGCTGGGATCGAGGACGATGCCGATGAGGCCCTGGAGATCAGTCAGGCCC  
AGCTGTTATTTGAGAACCGGCGGAAGGGACGGCAGCAGCAGCAGAAGCAGCAGCTGCCACAGACACCCCTTCTCT  
GTTTGAAGACTGAGATAATGTCTCCCTGTACCAAGATGAAGCCCCTAAGGGAACAGAGGCTTCTTCGGGGACAG  
AAGCTGCCACTGGCCTTGAAGGGGAAGAAAAGGATGGCATCTCAGACAGTGATAGCAGTACTAGCAGTGAGGAAG  
AAGAGAGCTGGGAACCCCTCCGTGGTAAGAAGCGAAGCCGTGGGCCTAAGTCAGATGATGACGGGTTTGAGATAG  
TGCCTATTGAGGACCCAGCGAAACATCGGATACTGGACCCCCGAAGGCCTTGCTCTAGGTGCTGTTATTGCCTCTT  
CCAAAAGGCCAAGAGAGACCTCATAGATAACTCCTTCAACCGGTACACATTTAATGAGGATGAGGGGGAGCTTC  
CGGAGTGGTTTTGTGCAAGAGGAAAAGCAGCACCGGATACGACAGTTGCCTGTTGGTAAGAAGGAGGTGGAGCATT  
ACCGGAAACGCTGGCGGGAAATCAATGCACGTCCCATCAAGAAGGTGGCTGAGGCTAAGGCTAGAAAAGAAAAGGA  
GGATGCTGAAGAGGCTGGAGCAGACCAGGAAGAAGGCAGAAGCCGTGGTGAACACAGTGACATCTCAGAACGAG  
AGAAAGTGGCACAGCTGCGAAGTCTCTACAAGAAGGCTGGGCTTGGCAAGGAGAAAACGCCATGTCACCTACGTTG  
TAGCCAAAAAAGGTGTGGGCCGCAAAGTGCGCCGGCCAGCTGGAGTCAGAGGTCATTTCAAGGTGGTGGACTCAA  
GGATGAAGAAGGACC AAAGAGCACAGCAACGTAAGGAACAAAAGAAAAAACACAAACGGAAGTAAGCAGAGCTGC  
CAGGCTCCCAGGAGAGCATGGGGACTAGGAGGAAGGGTGTGGCATGGCTCAGTCTGGCCCCCTTGATTACCGGCC  
TAGCCCCCTGCTCACATCACAGCTGTCTGAAGAACAGTGAGGTGGAGTGCCTAGAACTCCCGTGGTGGTCTTGAGC  
AGAGAGGAGGATGTCTCTGCTGCTGCTGAAGGTCTCCCATGAAAACACTGCTGAACTGTGTTGACACTCATGAC  
CCTTTTTTTAAACCGTTAAAGGGAAGTTCCGTGTTGGAGCGATACTCAATGTAGTCAGTCTACACCTGGACGTGT  
GGGCCACTTAAGCCCTCCCCACCCCATCCTATTCTTAAATAAAACCAGGATAATGGAAAAAAAAAAAAAAAAAAAA



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**FIGURE 4930**

MGKKGKVGKSRRDKFYHLAKETGYRSRSFAFKLIQLNRRFQFLQKARALLDLCAAPGGWLQVAAKMPVSSSLIVGV  
DLVPIKPLPNVVTLQEDITTERCRQALRKELKTWKVDVVLNDGAPNVGASWVHDAYSQAHLTLMALRLACDFLAR  
GGSFITKVFRSRDYQPLLWIFQQLFRRVQATKQASRHEAEIFVVCQGFLAPDKVDSKFFDPKFAPKEVEVQAK  
TVTELVTKKKPKAEGYAEGDLTLYHRTSVTDFLRAANPVDFLSKASEIMVDDEELAQHHPATTEDIRVCCQDIRVL  
GRKELRSLNLNWRTKLRRYVAKKLKEQAKALDISLSSGEEDEGDEEDSTAGTTKQPSKEEEEEEEEEQLNQTLAEM  
KAQEVAELEKRRKKKKLLREQRKQRRERVELKMDLPGVSIADGETGMFSLCTIRGHQLLEEVTOGDMSAADTFLSDL  
PRDDIYVSDVEDDGGDDTSLDSLDPEELAGVRGHQGLRDQKRMRLTEVQDDKEEEEEENPLLVPLEEKAVLQEEQ  
ANLWFSKGSFAGIEDDADEALEISQAQLLFENRRKGRQQQKQQLPQTTPPSCLKTEIMSPLYQDEAPKGTEASSG  
TEAATGLEGEKKDGLSDSDSSTSSEEEESWEPLRGKKRSRGPKSDDDGFEIVPIEDPAKHRILDPEGLALGAVIA  
SSKKAARDLIDNSFNRYTFNEDEGELPEWVQEEKQHRIRQLPVGKKEVEHYRKRWRINARPIKKVAEAKARKK  
RRMLKRLEQTRKKAEEAVVNTVDISEREKVAQLRSLYKKAGLGKEKRHVITYVVAKKGVGRKVRPAGVRGHFKVVD  
SRMKKDQRAQQRKEQKKKKHKKR

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**FIGURE 4931**

ATCCCTTGGAGGCATTCATGGCTGAAGTGGAGGATCAGGCAGCTAGAGACATGAAGAGGCTTGAAGAAAAGGACA  
AGGAAAGAAAAAACGTAAAGGGTATTCGAGATGACATTGAAGAGGAAGATGACCAAGAAGCTTATTTTCGATACA  
TGGCAGAAAACCCAACTGCTGGTGTGGTTTCAGGAGGAAGAGGAAGACAATCTAGAATATGATAGTGACGGAAATC  
CAATTGCACCTACCAAAAAAATCATTGATCCTCTTCCCCCATTGATCATTTCAGAGATTGACTATCCACCATTG  
AAAAAACTTTTACAATGAGCATGAAGAGATAACCAACCTCACTCCACAGCAGTTAATAGATCTCCGGCATAAGC  
TCAATCTTCGGGTCTCTGGTGTGCACCTCCTAGACCAGGAAGTAGCTTTGCTCATTTTGGGTTTGACGAACAAC  
TTATGCACCAGATTTCGGAAATCTGAATACACACAGCCCACTCCAATACAGTGCCAGGGTGTGCCTGTGGCATTAA  
GTGGTAGAGACATGATTGGTATTGCCAAAACAGGTAGTGGGAAAACCTGCAGCCTTCATTGCGCCATGTTGATT  
ATATAATGGACCAGAAGGAGTTGGAACCAGGTGATGGACCAATTGCAGTGATTGTGTGTCTACCAGGGAGCTTT  
GCCAGCAGATCCATGCAGAATGTAAGCGTTTGGAAAAGCATATAATCTTCGATCAGTGCCGCTATATGGAGGAG  
GGAGTATGTGGGAGCAGGCCAAGGCCCTTCAGGAGGGGGCAGAGATTGTTGTGTGTACCCAGGTGCGACTGATAG  
ATCATGTGAAAAAGAAAGCTACCAATCTTCAAAGAGTCTCTTACCTTGTGTTTGATGAAGCAGATCGAATGTTTG  
ACATGGGATTTGAGTACCAAGTTCGATCCATAGCAAGTCATGTTCTGCTCCTGACAGGCAGACTCTCTTATTTAGTG  
CAACTTTTCGGAAGAAGATTGAAAAGTTGGCCAGAGACATCCTGATCGACCTATTCGAGTGGTGCAGGGAGATA  
TTGGAGAGGCCAAATGAAGATGTGACACAGATTGTGGAGATTCTCCATTCTGGACCTAGTAAATGGAACCTGGCTTA  
CCCGGCGTCTGGTAGAATTTACCTCTTCAGGGAGTGTCTCTCTTTGTTACTAAAAAAGCCAATGCTGAAGAGC  
TAGCGAATAACCTTAAACAGGAGGGTCATAATCTTGGGCTGTCTCCATGGGGATATGGATCAGAGTGAGAGAAACA  
AGGTCAATTTAGACTTTAAGAAAAAGGACATCCCAGTCTCTGGTGGCCACAGATGTTGCAGCCCGTGGTCTGGACA  
TTCCTTCAATTAAGACTGTCATTAACATATGATGTGGCACGAGACATTGATACCCACACGCATAGGATTGGCCGCA  
CAGGAAGAGCGGGTGAGAAAGGTGTGGCCTATACCCTACTCACTCCCAAGGACAGCAATTTTGCTGGTGACCTGG  
TCCGGAACCTTGAAGGAGCCAATCAACACGTTTCTAAGGAACCTCTAGATCTGGCAATGCAGAAATGCCTGGTTTC  
GGAAATCTCGATTCAAAGGAGGGAAAGGAAAAAAGCTGAACATTGGTGGAGGAGGCCTAGGCTACAGGGAGCGGC  
CTGGCCTGGGCTCTGAGAACATGGATCGAGGAAATAACAATGTAATGAGCAATTATGAGGCCTACAAGCCTTCCA  
CAGGAGCTATGGGAGATCGACTAACGGCAATGAAAGCAGCTTTCCAGTCACAGTACAAGAGTCACTTTGTTGCAG  
CCAGTTTAAAGTAATCAGAAGGCTGGAAGTTCTGCTGTGGGGCAAGTGGGTGGACTAGTGCAGGGAGCTTGAATT  
CTGTTCCAATACTCAGCACAACAGGGCCATAACAGTCTTGACAGCCCCGTCAACCAGTGCCGCCAAGGGCATCC  
CAGGCTTTGGCAATACTGGCAACATCAGTGGTGCCCCGTGTGACCTACCCGTCTGCCGGAGCCCAAGGAGTCAACA  
ACACAGCTTCAGGGAATAACAGCCGAGAAGGGACTGGGGGCAGCAACGGGAAAAGAGAGAGATATACTGAGAACC  
GGGGCAGCAGCCCCGTACAGTCACGGAGAGACTGGCAATCGGCATAGCGATAGTCCACGTACGGAGATGGTGGT  
CGCCATGGAGATGGATACCGCCATCCAGAAAGCAGCAGCCGTCTACTGATGGCCATCGGCACGGGGAGAACAGA  
CATGGAGGAAGCGCAGGCCCGCATGGGGGAGAACC GGGGTGCAATGATGGTTCGGAATGGGGAAAGCAGGAAAGAA  
GCTTTTAAATCGTGAGAGCAAGATGGAGCCCAAGATGGAACCCAAAGTGGACAGCAGCAAGATGGACAAGGTGGAC  
AGCAAGACAGATAAGACAGCTGACGGCTTTGCTGTCCAGAGCCGCCTAAACGCAAGAAAAGTCGATGGGACAGT  
TAGAGGGGATGTGCTAAAGCGTGAAATCAGTTGTCTTAATTTTTAGAAAGATTTTGGTAACTAGGTGTCTCAGG  
GCTGGGTTGGGGTCCAAAGTGTAAGGACCCCCCTGCCCTTAGTGGAGAGCTGGAGCTTGAGACATTACCCCTTCA  
TCAGAAGGAATTTTCGGATGTTTTCTTGGGAAGCTGTTTTGGTCTTGGAAAGCAGTGAGAGCTGGGAAGCTTCTT  
TTGGCTCTAGGTGAGTTGTCTATGTGGGTAAAGTTGAGGTTATCTTGGGATAAAGGGTCTTCTAGGGCACAAAACCTC  
ACTCTAGGTTTATATTGTATGTAGCTTATATTTTTTACTAAGGTGTACCTTATAAGCATCTATAAATTGACTTC  
TTTTTCTTAGTTGTATGGCCAGGCAGTCCCCATTTTAGGAGTTGGCTTCTGCAAATTCAATCCATTGAGCTAACT  
GTTGGGGAGCAATTTGGTAGTTGTAGACATTTGCAGGGAAGGGAGATGTCTGATTCTAAATGGGAGTTGATGCTC  
AGGTCCCCAGCCAGGTTTGCATCCAGCCCTGAGACATGTAGGAAACACCTTTCAGACCCAGGCTCTGAAGATTCC  
CAGAAGCCACAAGGATTGAAGGGAAAAGGTGATCTGCTAACTGTTCCAGGATTGCTCCAGGTTTGAGATGGTAT  
TGCTAAATTTTAAATTAACAAGAAACCAACAACAGCTTTTAAAGTGTCTTCTATCTCATTGTATTTTTTTTAA  
CTTGCCCCAATGATAGAAAAGTCTTTTGCTGAAATGATTTTGATGATTTTTTGTATCGTTTATAAAAAGGAAAA  
GAAATATACAACTTTGACTTTTGTGAAAAAAGGAAAAAAGGAAAAA

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**FIGURE 4932**

MAEVEDQAARDMKRLEEKDKERKNVKGIRDDIEEEDDQEAYFRYMAENPTAGVVQEEEEEDNLEYDS DGNPIAPTK  
KIIDPLEPIDHSEIDYPPFEKNFYNEHEEITNLTPQQLIDLRHKLNLRVSGAAPPREGSSFAHFGFDEQLMHQIR  
KSEYTQPTPIQCQGVFVALSGRDMIGIAKTGSGKTAAFIWPMLIHIMDQKELEPGDGP IAVIVCPTRELCQQIHA  
ECKRF GKAYNLR SVAVYGGGSMWEQAKALQEGAEIVVCTPGRLIDHVKKKATNLQRVSYLVFDEADRMFDMGFY  
QVRSIASHVRPDRQTLLFSATFRKKIEKLARDILIDPIRVVQGDIGEANEDVTQIVEILHSGPSKWNWLTRLVE  
FTSSGSVLLFVTKKANAEELANNLKQEGHNLGLLHGDMDQSERNKVISDFKKK DIPVLVATDVAARGLDIPS IKT  
VINYDVARDIDTHTHRIGRTGRAGEKGVAYTLLTPKDSNFAGDLVRNLEGANQHVSKELLDLAMQNAWFRKSRFK  
GGKGKKLNIGGGGLGYRERPGLGSENMDRGNNVMSNYEAYKPSTGAMGDRLTAMKA AFQSQYKSHFVAASLSNQ  
KAGSSAAGASGWT SAGSLNSVPTNSAQQGHNSPDSPTSAAKGIPGFGNTGNISGAPVTYPSAGA QGVNNTASGN  
NSREGTGGSNGKRERYTENRGSSPSQSRRDWQSA

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**FIGURE 4933**

CCGCCGCCCCGGGCCCCCGGCATGCAGCCCCGGCTGCGGAGGTGACACTCACGGACCTTAGCCACCGCCGCGCCCA  
TCGCCACCAATGGACGAACAGGAGGCATTGAACTCAATCATGAACGATCTGGTGGCCCTCCAGATGAACCGACGTC  
ACCGGATGCCTGGATATGAGACCATGAAGAACAAGACACAGGTCACCTCAAATAGGCAGAGTGACGTCAGAATCA  
AGTTTCGAGCACAACGGGGAGAGGCGAATTATAGCGTTTCAGCCGGCCTGTGAAATATGAAGATGTGGAGCACAAGG  
TGACAACAGTATTTGGACAACCTCTTGATCTACATTACATGAACAATGAGCTCTCCATCCTGCTGAAAAACCAAG  
ATGATCTTGATAAAGCAATTGACATTTTAGATAGAAGCTCAAGCATGAAAAGCCTTAGGATATTGCTGTTGTCCC  
AGGACAGAAACCATAACAGTTCCTCTCCCCACTCTGAGGTGTCCAGACAGGTGCGGATCAAGGCTTCCAGTCCG  
CAGGGGATATAAATACTATCTACCAGCCCCCGAGCCCAGAAGCAGGCACCTCTCTGTCAGCTCCCAGAACCCCTG  
GCCGAAGCTCACCTCCCCCTGGCTATGTTCTGAGCGGCAGCAGCACATTGCCCGGCAGGGGTCTACACCAGCA  
TCAACAGTGAGGGGGAGTTTCATCCCAGAGACCAGCGAGCAGTGATGCTGGATCCCCTGAGCAGTGCGAAAAATT  
CCTTGCTGGAAGCTGCCAATCCTTGAGCAGGTTCAGCAGACAGCCCATCCTTCCGGAAATCACGAATGTCCCGTG  
CCCAGAGCTTCCCTGACAACAGACAGGAATACTCAGATCGGGAAACTCAGCTTTATGACAAAGGGGTCAAAGGTG  
GAACCTACCCCCGGCGCTACCACGTGTCTGTGCACCACAAGGACTACAGTGATGGCAGAAGAACATTTCCCCGAA  
TACGGCGTCATCAAGGCAACTTGTTACCCCTGGTGCCCTCCAGCCGCTCCCTGAGCACAATGGCGAGAACATGG  
GTCTGGCTGTGCAATACCTGGACCCCCGTGGGCGCCTGCGGAGTGCGGACAGCGAGAATGCCCTCTCTGTGCAGG  
AGAGGAATGTGCCAACCAAGTCTCCAGTGCCCCCATCAACTGGCGCCGGGAAAGCTCCTGGGCCAGGGTGCCCT  
TCGGCAGGGTCTATTTGTGCTATGACGTGGACACGGGACGTGAACCTTGCTTCCAAGCAGGTCCAATTTGATCCAG  
ACAGTCTGAGACAAGCAAGGAGGTGAGTGCTCTGGAGTGCGAGATCCAGTTGCTAAAGAACTTGACAGCATGAGC  
GCATCGTGACGTACTATGGCTGTCTGCGGGACCGCGCTGAGAAGACCCTGACCATCTTCATGGAGTACATGCCAG  
GGGGCTCGGTGAAAGACCAGTTGAAGGCTTACGGTGCTCTGACAGAGAGCGTGACCCGAAAGTACACGCGGCAGA  
TCCTGGAGGGCATGTCTACCTGCACAGCAACATGATTGTTACCCGGGACATTAAGGGAGCCAACATCCTCCGAG  
ACTCTGCTGGGAATGTAAAGCTGGGGGACTTTGGGGCCAGCAAAACGCCTGCAGACGATCTGTATGTGCGGGACGG  
GCATGCGCTCCGTCACCTGGCACACCCTACTGGATGAGCCCTGAGGTGATCAGCGCGCAGGGCTATGGAAGGAAAG  
CAGACGTGTGGAGCCTGGGCTGCACTGTGGTGGAGATGCTGACAGAGAAACCACCGTGGGCAGAGTATGAAGCTA  
TGGCCGCCATCTTCAAGATTGCCACCCAGCCACCAATCCTCAGCTGCCCTCCCACATCTCTGAACATGGCCGGG  
ACTTCTGAGGCGCATTTTTGTGGAGGCTCGCCAGAGACCTTCAGCTGAGGAGCTGCTCACACACCACTTTGCAC  
AGCTCATGTACTGAGCTCTCACGGCCACACAGCTGCCGGTGCCTTTTGTCTGATGGCAGGGGGCTGCTGCTGGG  
CTCAGTGAAGTTGCTGCTTCTCCCAGGCAAGGCTGTGGACCATGGAGTGGCAGCCCAGCCAGCGTGGTCTGTGC  
CCCTTCCGCCACTGGGGCTCAGAGCCGGGGTGGGGTGGCTGCAGCCTCAGGACTGGGAGCCCCCAGCCTGTGAGA  
TCCAGGAGCTCCAGTGTCTGAGCTCAGCGTGGAGGGGTAGGGGCTGGGAACAGTGTGCAAGGCAGCCGTGGGCC  
CCACCTCGGGGATGTGCTCTGACACTGCAATTGGCACCGAAGCCAGAGGGTCTGGGGGCACAAGACTGACGCC  
AGGGTATGAAGAGTGTTATTTTCATTCAAAGTGTTATTTTGTCTTTTCCCTTCCAATGTCTGGAGACCACCAGGGCA  
TCTCTGGGCTGGATGAGCTCCCACAAGCCTGAGGGAAAGGCCAGCACTCGCTAGCAGTGGCAGGCAGAGGCCAG  
GCTGCCGTCCCCTAGAGTCCCAGGTTGGCTCTGCCAGTCTGTCTTTACCAAAGATGAATGAAGCAAATGTCAT  
GCTGCCTTATTAGGGAAGGAGGAGCCTGTCTGCTGTGGCCATGACCCTGCCTCTCCCAGGCAGGGGCCCGCG  
ATGTGGAACGTGCTGCCACTGAGGGGGGATCCAGTTTTGTCAATGCAGTTGTCTCTGTTTTACAAGTTGGAGTCAC  
TCTTATGCTGTACCCAGTTTCTAAACTGGAGACTGTGTGTGCCCTCTGGGCTCTGAGTACCCCTGCTTTGGGCTT  
GGGCTAGGCTGCATTGAAAAGAGCTGAAGGTTGTGGCCTTTGCGCTCCTGGCCCAGCCTTTGTTCCCCACTGGA  
GCAGAAGGGGAGATGGACGACACGGTGGGGGCATCTGGCCTGGCCAGTGCCCTGATCCCAGAGAGCCCGAGGAGG  
TGTCTCAGGCTGCCTGAGTCGTGACCTGCTAGGCCAGAGCCCACTCCATCTGGTAGAAGGGGAAAGCCCATATGCT  
ACCACAGCTGTGTCCAAAACCGCCAGCTCTGTTCTTCTCAGCCAGCCTCGCCCATCCCCCTTAGAGTCTCAGCC  
CCTTTCCCTTGTAGCTCCTCCCCTGGAGGGGGAATGGCAGCAGGGGTGGGGAAACAGCATCTCCAAGCAGCTTA  
GAGTTGGCCATATTTACCTCAGCCTGGGCGCTGGTCCTTTCTTCCGGCCCCCTCCCCTCCAAAATGTGCCATTGC  
TAGAGCTCCTCCTCTCAACACCCAGTTTCTTGGGAGTTGTCATTAAAGGAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4934**

MDEQEALNSIMNDLVALQMNRRHRMPGYETMKNKDTGHSNRQSDVRIKFEHNGERRIIAFSRPVKYEDVEHKVTT  
VFGQPLDLHYMNNELSILLKNQDDLDKAIDILDRSSSMKSLRILLLSQDRNHNNSSPHSEVSRQVRIKASQSAGD  
INTIYQPPEPRSRHLSVSSQNPGRSSPPPGYVPERQQHIARQGSYTSINSEGEFIPETSEQCMLDPLSSAENSL  
GSCQSLDRSADSPSFRKSRMSRAQSFPDNRQEYSDRETQLYDKGVKGGTYPRRYHVSVHHKDYS DGRRTFPRI  
HQQNLFTLVPSSRSLSTNGENMGLAVQYLDPRGRLRSADSENALSVQERNVPTKSPSAPINWRRGKLLGQGA  
FYGRVYLCYDVDITGRELASKVQVQFDPDSPETSKEVSALECEIQLLKNLQHERIVQYYGCLRDRAEKT  
LTIIFMEYMPGGSVKDQLKAYGALTESVTRKYTRQILEGMSYLHSNMIVHRDIKGANILRDSAGNVKL  
GDFGASKRLQTICMSGTGMRSVTGTPYWMSPEVISGEGYGRKADVWSLGCTVVEMLTEKPPWAEYEAMAAIF  
FKIATQPTNPQLPSHISEHGRDFLRRIFVEARQRP SAEELLTHHFAQLMY

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**FIGURE 4935**

AGAAGGAGGCCCCAACCCCTGAGCACAAACAGCAACCTGGCCAATATCTTAGAGGTGTGTGCGCAGCAAACATATGCC  
CAAGTCAACGATTGAGACAGCACTGAAAATGGAGAAATCCAAGGACACTTATTTGCTGTATGAGGGTCGAGGCCC  
TGGTGGCTCTTCTCTGCTCATCGAGGCATTATCTAACAGTAGCCACAAGTGCCAAGCAGACATTAGACATATCCT  
GAATAAGAATGGAGGAGTGATGGCTGTAGGAGCTCGTCACTCTTTTGACAAAAGGGGGTGATTGTGGTTGAAGT  
GGAGGACAGAGAGAAGAAGGCTGTGAACCTAGAGCGTGCCCTGGAGATGGCAATCGAAGCAGGAGCTGAGGATGT  
CAAGGAAACTGAAGATGAAGAAGAAAGGAACGTTTTTAAATTTATTTGTGATGCCTCTTCACTGCACCAAGTGAG  
GAAGAAGCTGGACTCCCTGGGCCTGTGTTCTGTGTCCTGTGCACTAGAGTTCATCCCCAACTCAAAGGTGCAGCT  
GGCTGAGCCCGACCTGGAACAGGCCGCACATCTCATTCAAGCTCTCAGCAACCACGAGGATGTGATTACAGTCTA  
TGATAACATTGAATAACCAGGCTACATGTGCCCCGGGTTCCCTTAGAAATGTGGCAGCCCATTCCAGCACAC  
AGGCTTCTGCAGCAATCTCTGAGGGTAAAGCCGGTGGGAGGCTCAGCAGGCCAGGAGGCCCAAGGACAGGACTTG  
CGACCTTGAAGCCAAAGGAATCTCACTTGTGGGGCCTCCTTGTCAGCTCTGCTGCTGTCTCAGAGCCATCTGGAT  
GAGTGTCCCGACACCCTCTCGGATGCAGGGCAGGACCACCCAGCTGGTCAGACTCTGATGTTGGGTAGCTGGCCT  
CTGTGGGGATTGTAAGTGCCCTGAGGCGCTCTGTACTAGAACTGCTCTTAATAATAACGGTGATTATTGGTTGC  
TGC

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**FIGURE 4936A**

CGGAGGAGGACGCGAGCCCTTGCGGGCGGTTCATCACAGCCCAGCCTCGGGGCTGCCACAGCGGTTGCGCCTGT  
GCGCCCTCGGTCCCCGCGTCCACTGAGCGCCGCGCTCGGGGATCGGGGCCCCGGCCGGCCCCCGCGCCCTGGC  
CTCGTCACTGCTGCGTGCCTGCTCCTCGGGTGCCTGCACCTCGGCCGTCCCGGCGCCCCCTGGGGACGCCG  
CCCTCCCGGAACCCAACGTCTTCTCATCTTCAGCCATGGACTGCAGGGCTGCCTGGAGGCCAGGGCGGGCAGG  
TCAGAGTCACCCQGGCTTGCAATACCAGCCTCCCTGCCCAGCGCTGGAAGTGGGTCTCCCGAAACCGGCTATTCA  
ACCTGGGTACCATGCAGTGCCTGGGCACAGGCTGGCCAGGCACCAACACCACGGCCTCCCTGGGCATGTATGAGT  
GTGACCGGGAAGCACTGAATCTTCGCTGGCATTGTCGTACACTGGGTGACCAGCTGTCCTTGCTCCTGGGGGCC  
GCACCAGCAACATATCCAAGCCTGGCACCCCTTGAGCGTGGTGACCAGACCCGAGTGGCCAGTGGCGCATCTACG  
GCAGCGAGGAGGACCTATGTGCTCTGCCCTACCACGAGGTCTACACCATCCAGGGAAACTCCACGGAAAGCCGT  
GCACCATCCCTTCAAATATGACAACCAAGTGGTTCACGGCTGCACCAGCACGGGCCGCGAGGATGGTCACTGT  
GGTGTGCCACCACCCAGGACTACGGCAAAGACGAGCGCTGGGGCTTCTGCCCCATCAAGAGTAACGACTGCGAGA  
CCTTCTGGGACAAGGACCAGCTGACTGACAGCTGCTACCAGTTTAACTTCCAGTCCACGCTGTCGTGGAGGGAGG  
CCTGGGCCAGCTGCGAGCAGCAGGGTGGGATCTGCTGAGCATCACGGAGATCCACGAGCAGACCTACATCAACG  
GCCTCCTCACTGGGTACAGCTCCACCCTGTGGATCGGCTTGAATGACTTGGACACGAGCGGAGGCTGGCAGTGGT  
CGGACAACCTCGCCCCCTCAAGTACCTCAACTGGGAGAGTGACCAGCCGGACAACCCCACTGAGGAGAACTGTGGAG  
TGATCCGCACTGAGTCTCGGGCGGCTGGCAGAACCGTGACTGCAGCATCGCGCTGCCCTATGTGTGCAAGAAGA  
AGCCCAACGCCACGGCCGAGCCCCACCCCTCCAGACAGGTGGGCCAATGTGAAGGTGGAGTGCGAGCCGAGCTGGC  
AGCCCTTCCAGGGCCACTGCTACCGCTGCAGGCCGAGAAGCGCAGCTGGCAGGAGTCCAAGAAGGCATGTCTAC  
GGGGCGGTGGCGACCTGGTCAGCATCCACAGCATGGCGGAGCTGGAATTCATCACCAAGCAGATCAAGCAAGAGG  
TGGAGGAGCTGTGGATCGGCCTCAACGATTTGAACTGCAGATGAATTTTGAGTGGTCTGACGGGAGCCTTGTGA  
GCTTCACCCACTGGCACCCCTTTGAGCCCAACAACCTCCGGGACAGTCTGGAGGACTGTGTACCATCTGGGGCC  
CGGAAGGCCGCTGGAACGACAGTCCCTGTAACCACTCCTTGCCATCCATCTGCAAGAAGGCAGGCCAGCTGAGCC  
AGGGGGCCGCGAGGAGGACCATGGCTGCCGGAAGGGTTGGACGTGGCACAGCCCATCCTGCTACTGGCTGGGAG  
AAGACCAAGTGACCTACAGTGAGGCCCGGCGCTGTGCACTGACCATGGCTCTCAGCTGGTCACCATCACCAACA  
GGTTCGAGCAGGCCTTCGTACGAGCCTCATCTACAACCTGGGAGGGCGAGTACTTCTGGACGGCCCTGCAGGACC  
TCAACAGCACCGGCTCCTTCTTCTGGCTCAGTGGGGATGAAGTCATGTACACCCACTGGAACCGGGACCAGCCCG  
GGTACAGCCGTGGGGGCTGCGTGGCGCTGGCCACTGGCAGCGCCATGGGGCTGTGGGAGGTGAAGAAGTGTACCT  
CGTTCGGGGCCGCTACATCTGCCGGCAGAGCCTGGGCACTCCAGTGACGCCGGAGCTGCCGGGGCCAGATCCCA  
CGCCAGCCTCACTGGCTCCTGTCCCCAGGGCTGGGCCTCGGACACCAAACCTCCGGTATTGCTATAAGGTGTTCA  
GCTCAGAGCGGCTGCAGGACAAGAAGAGCTGGGTCCAGGCCAGGGGGCTGCCAGGAGCTGGGGGGCCAGCTGC  
TGAGCCTGGCCAGCTACGAGGAGGAGCACTTTGTGGCCAACATGCTCAACAAGATCTTCGGTGAATCAGAACCCG  
AGATCCACGAGCAGCACTGGTTCTGGATCGGCCTGAACCGTCCGGATCCCAGAGGGGGTTCAGAGTTGGCGCTGGA  
GCGACGGCGTAGGGTTCTCTTACCACAATTTGACCGGAGCCGGCACGACGACGACATCCGAGGCTGTGCGG  
TGCTGGACCTGGCCTCCCTGCAGTGGGTGGCCATGCAGTGCAGACACAGCTGGACTGGATCTGCAAGATCCCCA  
GAGGTACGGACGTGCGGGAGCCCCGACGACAGCCCTCAAGGCCGACGGGAATGGCTGCGCTTCCAGGAGGCCGAGT  
ACAAGTTCTTTGAGCACCCTCCACGTGGGCGCAGGCGCAGCGCATCTGCACGTGGTTCCAGGCCGAGCTGACCT  
CCGTGCACAGCCAGGCAGAGCTAGACTTCCCTGAGCCACAACCTGCAGAAGTTCTCCCGGGCCAGGAGCAGCACT  
GGTGGATCGGCCTGCACACCTCTGAGAGCGATGGGCGCTTCAATGGACAGATGGTTCCATTATAAACTTCATCT  
CCTGGGCACCCAGGCAAACCTCGGCCTGTGCGCAAGGACAAGAAGTGCCTGTACATGACAGCCAGCCGAGAGGACT  
GGGGGGACCAGAGGTGCCTGACAGCCTTGCCCTACATCTGCAAGCGCAGCAACGTACCAAAGAAACGCAGCCCC  
CAGACCTGCCAACTACAGCCCTGGGGGGCTGCCCCCTGACTGGATCCAGTTCCTCAACAAGTGTTTTCAGGTCC  
AGGGCCAGGAACCCAGAGCCGGGTGAAGTGGTCAGAGGCACAGTTCTCCTGTGAACAGCAAGAGGGCCAGCTGG  
TCACCATCACAAACCCCTTAGAGCAAGCATTATCACAGCCAGCCTGCCCAATGTGACCTTTGACCTTTGGATTG  
GCCTCCATGCCTCGCAGAGGGACTTCCAGTGGGTGGAGCAGGAGCCTTTGATGTATGCCAACTGGGCACCTGGGG  
AGCCCTCTGGCCCTAGCCCTGCTCCAGTGGCAACAAACCGACAGCTGTGCGGTGGTCTGCACAGCCCCCTCAG  
CCCACTTCACTGGCCGCTGGGACGATCGGAGCTGCACGGAGGAGACCCATGGCTTCATCTGCCAGAAGGGCACGG  
ACCCCTCCCTGAGCCCGTCCCCAGCAGCGCTGCCCCCGCCCCGGGCACTGAGCTCTCTACCTCAACGGCACCT  
TCCGGCTGCTTCAGAAGCCGCTGCGCTGGCACGATGCCCTCCTGCTGTGTGAGAGCCACAATGCCAGCCTGGCCT

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**FIGURE 4936B**

ACGTGCCCCGACCCCTACACCCAGGCCTTCCTCACGCAGGCTGCCCCGAGGGCTGCGCACGCCGCTCTGGATTGGGC  
TGGCTGGCGAGGAGGGCTCTCGGCGGTACTCCTGGGTCTCAGAGGAGCCGCTGAACTACGTGGGCTGGCAGGACG  
GGGAGCCGCAGCAGCCGGGGGGCTGTACCTACGTAGATGTGGACGGGGCCTGGCGCACCACCAGCTGTGACACCA  
AGCTGCAGGGGGCTGTGTGTGGGGTTAGCAGTGGGCCCCCTCCTCCCCGAAGAATAAGCTACCATGGCAGCTGTC  
CCCAGGGACTGGCAGACTCCGCGTGGATTCCCTTCCGGGAGCACTGCTATTCTTTCCACATGGAGCTGCTGCTGG  
GCCACAAGGAGGCGCGACAGCGCTGCCAGAGAGCGGGTGGGGCCGTCCTGTCTATCCTGGATGAGATGGAGAATG  
TGTTTGTCTGGGAGCACCTGCAGAGCTATGAGGGCCAGAGTCGGGGCGCCTGGCTGGGCATGAACTTCAACCCCA  
AAGGAGGCACTCTGGTCTGGCAGGACAACACAGCTGTGAACTACTCCAACCTGGGGGCCCCGGGCTTGGGCCCCA  
GCATGCTGAGCCACAACAGCTGCTACTGGATTGAGAGCAACAGCGGGCTATGGCGCCCCGGCGCTTGACCAACA  
TCACCATGGGTGTCTGTCTGCAAGCTTCCTCGTGTGAGCAGAGCAGCTTCTCCCCATCAGCGCTTCCAGAGAACC  
CAGCGGCCCTGGTGGTGGTGTGATGGCGGTGCTGCTGCTCCTGGCCTTGCTGACCGCAGCCCTCATCTTTACC  
GGAGGCGCCAGAGCATCGAGCGCGGGGCCTTTGAGGGTGCCCGCTACAGCCGCAGCAGCTCCAGCCCCACCGAGG  
CCACTGAGAAGAACATCCTGGTGTGAGACATGGAAATGAATGAGCAACAAGAAATAGAGCCAGGCGCGTGGGCAGG  
GCCAGGGCGGGAGGAGCTGGGGAGCTGGGGCCCTGGGTGAGTCTGGCCCCCACCAGCTGCCTGTCCAGTTGGCC  
TATGGAAGGGTGCCCTTGGGAGTCGCTGTTGGGAGCCGGAGCTGGGCAGAGCCTGGGCTGGTGGGGTGCCACCCT  
CCCACAAGGGCTGGGCTGAGACCCAGCTGAGTGCAGCGTGGCGTTTCCCTTTCTGGGGGGGCTGAGGTCTTGTC  
ACCTGGTCTGTGCCCCACAGGAACCAGAGGTAGGATGGGAGGGGGAACGAGAGCCTCTTTCTCCCCAGAGCCC  
CCGGCCCAGGCCTGTTGATCCGCGCCCCAGGACCCCTTCTTTGAGAGCCCCAGGAGCCTCCCCTGTCCCCTCG  
GGCAGATCTGTTGTGTCTCTCTTCCACCTGGCAGCCTCAGCTCTGTGCCCCCACCCTGCTCCCTCTCGCCCCT  
TCTCTCCACCCCTTCTTCTGAGCCGGGCCCTGGGGATTGGGGAGCCCTCTTGTTCTGATGAGGGTCAGCTGA  
GGGGGCTGAGCATCCATCACTCCTGTGCCTGCTGGGGTGGCTGTGGGGCGTGGCAGGAGGGGCTAGGTGGGTTG  
GGCCTGAGAACCAGGGCACGGGTGTGGTGTCTGCTGGGCTGGAGATAAGACTGGGGAGAGACACCCCAACCTCCC  
AGGGTGGGAGCTGGGCCGGGCTGGGATGTCATCTCCTGCCGGGCGGGGAGGGCTCTGCCCCCTGGAAGAGTCCCC  
TGTGGGGACCAAATAAGTTCCCTAACATCTCCAGCTCCTGGCTCTGGTTTGGAGCAAGGGGAAGGGTTGCCAGA  
GTCCTGGGGGCCCCAGAGGAGCAGGAGTCTGGGAGGGGCCAGAGTTACCCCTCTAGTGGATCCAGGAGGAGCAGC  
ACCCGAGCCCTGGAGTGGCCCAGTACCCTTCCAAGAGGCCACAGTCCCAGCCAGGACAAAGTATGCGGCCCATCC  
TGGTGCGACAGCGTGGGACAATGTGAACATGGACTCGAAGACATGGCCCTTCTCTGTAGTTGATTTTTTAAATG  
TGCCATTATTGTTTTT



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## FIGURE 4937

MGPGRPAPAPWPRHLLRCVLLLGCLHLGRPGAPGDAALPEPNVFLIFSHGLQGCLEAQGGQVRVTPACNTSLPAQ  
RWKQVSRNRLFNLTGMQCLGTGWPGTNTTASLGMIECDREALNLRWHCRTLGDLSSLGARTSNISKPGTLERG  
DQTRSGQWRIYGSEEDLCALPYHEVYTIQGNSHGKPCITPFKYDNQWFHGCTSTGREDGHLWCATTQDYGKDERW  
GFCPIKSNDCETFWDKDLTDSCYQFNFQSTLSWREAWASCEQQGADLLSITEIHEQTYINGLLTGYSSTLWIGL  
NDLDTSGGWQWSDNSPLKYNWESDQPDNPSEENCGVIRTESSGGWQNRDCSIALPYVCKKKPNATAEPTPPDRW  
ANVKECEPSWQPFQGHCHYRLQAEKRSWQESKKACLRGGGDLVSIHSMAELEFITKQIKQEVEELWIGLNDLKLQ  
MNFESDGSLSVSTHWHPFEPNNFRDSLEDCVTIWGPEGRWNDSPCNQSLPSICKKAGQLSQGAAEEDHGCRKGW  
TWHSPSCYWLGEDQVTYSEARRLCTDHGSQLVTTITNRFEQAFVSSLIYNWEGEYFWTALQDLNSTGSFFWLSGDE  
VMYTHWNRDQPGYSRGGCVALATGSAMGLWEVKNCTSFRRARYICRQSLGTPVTPPELPGPDPTPSLTGSCPQGWAS  
DTKLRYCYKVFSSERLQDKKSWVQAQACQELGAQLLSLASEEEHFVANMLNKIFGESEPEIHEQHWFWIGLNR  
RDPRGGQSWRWSDBGVGSYHNFDRSRHDDDIRGCAVLDSLQWVAMQCDTQLDWICKIPRGTDVREPDDSPQG  
RREWLRFQEAQYKFFEHHSWAQAQRICWFAELTSVHSAELDFLSHNLQKFSRAQEQHWWIGLHTSESDGRF  
RWTGDSIINFISWAPGKPRPVGKDKKCVYMTASREDWGDQRCLTALPYICKRSNVTKETQPPDLPTTALGGCPSD  
WIFLNLKCFQVQGEQPSRVKWSEAQFSCEQQEAQLVTITNPLEQAFITASLPNVTFDLWIGLHASQRDFQWVEQ  
EPLMYANWAPGEPSPGSPAPSGNKPTSCAVVLHSPSAHFTGRWDDRSCTEETHGFICQKGTDPSPSPALPPA  
PGTELSYLNLTFRLLQKPLRWHDALLCESHNASLAYVPDPTQAFLTQAAGLRTPWLWIGLAGEEGSRYSWVS  
EEPLNYVGWQDGEPPQPGGCTYVDVDGAWRTTSCDTKLQGAVCGVSSGPPPPRRISYHGSCPQGLADSAWIPFRE  
HCYSFHMELLLGHKEARQRCRAGGAVLSILDEMENVFVWEHLQSYEGQSRGAWLGMNFPKGGTLVWQDNTAVN  
YSNWGPPGLGPSMLSHNSCYWIQSNSGLWRPGACTNITMGVCKLPRAEQSSFSPSALPENPAALVVVLMAVLLL  
LALLTAALILYRRRQSIERGAFEGARYSRSSSSPTEATEKNILVSDMEMNEQQE

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**FIGURE 4938**

GGAGCCGCGCCGCATCTCAGGCGCAGTCTCTAGGGGCTGTGCGCATCCGTGGGGGGGACATGCGCATCTCAGGGG  
GGCTGCTCGCATCTGGGGGTGCTGTGTGCAATCTCGGGGGGGCTGTGCCCATCTAGCGGGGTGGCTGTGCGCATCT  
GGAGGGGGCTGTGCGCAACCCGGGGGGGGTGTGCGCGCATCTAGCAGGGGCGGCTGTGCGCATTTTGGGGGGGG  
CTGTGCATATCTGGGGGGACCGTGCTTATCTCCGGGGGCGGCTGTGCGCATCTTGAGGGGTGTGTACATCTCGGG  
GGCCCTGTGCGCATCTTGGGGGGCTGTGTGCATCCGCGGGGGCTGTGCGCATCTCGGGGTGCTGTGCGCTGCTCC  
TCTGAGCTCTGCTCTTTCTTGACGCTTTGCCTCAGCATGGAGGGCGGGGCCGCGGCAGCCACCCCCACAGCACT  
GCCTTACTACGTGGCCTTCTCCAGCTGCTGGGCCTGACCTTGGTGGCCATGACCGGCGCGTGGCTCGGGCTGTA  
CCGAGGCGGCATTGCCTGGGAGAGCGACCTGCAGTTCAACGCGCACCCCCCTCTGCATGGTCATAGGCCTGATCTT  
CCTGCAGGGAATGCCCTGCTGGTTTACCGTGTCTTCAGGAACGAAGCTAAACGCACCACCAAGGTCCTGCACGG  
GCTGCTGCACATCTTTGCGCTCGTCATCGCCCTGGTTGGCTTGGTGGCGGTGTTGACTACCACAGGAAGAAGGG  
CTACGCTGACCTGTACAGCCTACACAGCTGGTGCGGGATCCTTGTCTTTGTCTGTACTTTGTGCACTGGCTGGT  
GGGCTTCAGCTTCTTCTGTTTCCCGGAGCTTCACTTCTCCCTGCGGAGCCGCTACCGCCACAGCACATCTTCTT  
TGGTGTCTACCATCTTCTCTCTTTCCGTGGGCACCGCCCTGCTGGGCCTGAAGGAGGCACTGCTGTTCAACCTCGG  
GGCAAGTATAGCGCATTTGAGCCCGAGGGGTGCTCTGGCCAACGTGCTGGGCCTGCTGCTGGCCTGCTTCGGTGG  
GGCGGTGCTCTACATCTTGACCCGGGCGGACTGGAAGCGGCCTTCCCAGGCGGAAGAGCAGGCCCTCTCCATGGA  
CTTCAAGACGCTGACGGAGGGAGATAGCCCCGGCTCCAGTGATGCGCCCGGCCGCGCCCTGGGGGTTTCGCGGGGT  
GTCTTCTTGCTGCCCCCTGCTGAGGCGTCTTCAGGACTGCAGGCTCCGGAGAGTGGCTCTGGCAGCAGGCGGGCG  
CGTGGGTGCAGCTGCATCTGTTTGAGTGTGCTTTCTGGGGTCAGGCTCTCCGCTCTCTGCTTCTCCTTTCTCC  
GCTGCTATAGACCAGTTCAATTGTGTGTGGCTCCCGTGTCTCTGTTGCCCCCTTCAGTGCAGAAGGCTTTGGGTAG  
GACTTCGGGTGTTTCGGTCTGGTGCAGAGCACAGATCTTTAAAGAAGCGAGAGAGGAGGCCCCACCTCCTGGC  
AGCAGATGCCTGGGGCAAGGCCAGGGGAACTGGGGGGGCTCAGGGACAGGCCTGGAAAGGCCACGATGGCTGC  
TGAATTCAAACAAGGAGTCCCTCCAGCCTGAATAACACGTGGCACAAATGGGCCCCGGCCTTTGGCAGAGGAGCAA  
GTGATATGATGTGTAAAGTATGTTGGTGGTGAAAGCAAGGTTCCCCAGGAGAGGGGAGGGACTGGCCCCCTGGGAA  
GCTCTGAGATGAGGCTGTGGCCAGCTGTAGTCCTGACCTTCTCTTCTTTAACCTTTAGCCCTAGGATGGCTT  
TGGTGGGAGAGGGGATAGAAGCCCATGACTTCAGACAGACTTCTCTTGGCAGATGCAGGCGGGCCTCCTCCAG  
GCTGCTCCAGACATGGGGGTGGGGATGGGGGGCACCTTGACGCCCTTCTGCTGGGGCTCCTCCTTGTAGCA  
CCCCCTTGCGGCTCAGCTCTGGTTTCTCTCTCCAGGCTCACCCAGGCTCTGCTCAGGCTGGGAGGCAGAGGGCA  
CAAACCTTATAATTTTTTAAATGAAAAACCGCTGCTGCTGGCTGTGGCTAGAGCCCCCTGGGGCTGCTGGAGCTG  
CTGCCTCTGTTCTGGAGGACGAGCCTTCTCCTTATCTGCTGCCCATCTTTCCAGGAAGTCAGGATGGAGTCAGAA  
CAACTACAGTCATCCCCGTGGTGTCTGCACATCACTCCAGCCCCATAAAGAGTGTATGTTAGCTGAGTCACCA  
TTTGGCTTCGGCCTGGAAATAGTGTGATTAGAACACTGATCGTGTGCGAGGCCAGGAGATCAAGACCATCCTGAC  
TAACAAACACAGTGAAACCCCGTCTCTACTAAAAATACAAAAAATTAGCCAGGCGTGGTGGTGGGCGCCTGTAG  
TCCCAGCTACTTGGGAG

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**FIGURE 4939**

AGTATGTGTGGTTGGGGAATTCATGTGGAGGTCAGAGTGGAAGCAGGTGTGAGAGGGTCCAGCAGAAGGAAACAT  
GGCTGCCAAAGTGTTTGAGTCCATTGGCAAGTTTGGCCTGGCCTTAGCTGTTGCAGGAGGCGTGGTGAACCTCTGC  
CTTATATAATGTGGATGCTGGGCACAGAGCTGTCATCTTTGACCGATTCCGTGGAGTGCAGGACATTGTGGTAGG  
GGAAGGGACTCATTTTTCTCATCCCGTGGGTACAGAAACCAATTATCTTTGACTGCCGTTCTCGACCACGTAATGT  
GCCAGTCATCACTGGTAGCAAAGATTTACAGAATGTCAACATCACACTGCGCATCCTCTTCCGGCCTGTCGCCAG  
CCAGCTTCCTCGCATCTTCACCAGCATCGGAGAGGACTATGATGAGCGTGTGCTGCCGTCCATCACAACGAGAT  
CCTCAAGTCAGTGGTGGCTCGCTTTGATGCTGGAGAACTAATCACCAGAGAGAGCTGGTCTCCAGGCAGGTGAG  
CGACGACCTTACAGAGCGAGCCGCCACCTTTGGGCTCATCCTGGATGACGTGTCCTTGACACATCTGACCTTCGG  
GAAGGAGTTCACAGAAGCGGTGGAAGCCAAACAGGTGGCTCAGCAGGAAGCAGAGAGGGGCCAGATTTGTGGTGA  
AAAGGCTGAGCAACAGAAAAAGGCGGCCATCATCTCTGCTGAGGGCGACTCCAAGGCAGCTGAGCTGATTGCCAA  
CTCACTGGCCACTGCAGGGGATGGCCTGATCGAGCTGCGCAAGCTGGAAGCTGCAGAGGACATCGCGTACCAGCT  
CTCACGCTCTCGGAACATCACCTACCTGCCAGCGGGGCGAGTCCGTGCTCCTCCAGCTGCCCCAGTGAAGGGCCAC  
CCTGCCTGCACCTCCGCGGGCTGACTGGGCCACAGCCCCGATGATTCTTAACACAGCCTTCCTTCTGCTCCCACC  
CCAGAAATCACTGTGAAATTTTCATGATTGGCTTAAAGTGAAGGAAATAAAGGTAAAATCACTTCAGATCTCTAAT  
TAGTCTATCAAATGAACTCTTTCATTCTTCTCACATCCATCTACTTTTTTATCCACCTCCCTACCAAAAATTGC  
CAAGTGCCTATGCAAACCAGCTTTAGGTCCCAATTCGGGGCCTGCTGGAGTTCCGGCCTGGGCACCAGCATTG  
CAGCACGCAGGCGGGGCGAGTATGTGATGGACTGGGGAGCACAGGTGTCTGCCTAGATCCACGTGTGGCCTCCGTC  
CTGTCACTGATGGAAGGTTTGCGGATGAGGGCATGTGCGGCTGAACTGAGAAGGCAGGCCTCCGTCTTCCCAGCG  
GTTCTGTGCAGATGCTGCTGAAGAGAGGTGCCGGGGAGGGGCAGAGAGGAAGTGGTCTGTCTGTTACCATAAGT  
CTGATTCTCTTTAACTGTGTGACCAGCGGAAACAGGTGTGTGTGAACTGGGCACAGATTGAAGAATCTGCCCCTG  
TTGAGGTGGGTGGGCCTGACTGTTGCCCCCAGGGTCTTAAACTTGGATGGACTTGTATAGTGAGAGAGGAGGC  
CTGGACCGAGATGTGAGTCCTGTTGAAGACTTCTCTCTACCCCCACCTTGGTCCCTCTCAGATACCCAGTGGA  
ATTCCAACCTGAAGGATTGCATCCTGCTGGGGCTGAACATGCCTGCCAAAGACGTGTCCGACCTACGTTCTGGC  
CCCCTCGTTACAGAGACTGCCCTTCTCACGGGCTCTATGCCTGCACTGGGAAGGAAACAAATGTGTATAAACTGCT  
GTCAATAAATGACACCCAGACCTTCC

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**FIGURE 4940**

MAAKVFESIGKFGLALAVAGGVVNSALYNVDAGHRAVIFDRFRGVQDIVVGEGTHFLIPWVQKPIIFDCRSRPRN  
VPVITGSKDLQNVNITLRILFRPVASQLPRIFTSIGEDYDERVLPSITTEILKSVMVARFDAGELITQRELVSQV  
SDDLTERAATFGLILDDVSLTHLTFGKEFTEAVEAKQVAQQEAERARFVVEKAEQQKAAIISAEGDSKAAELIA  
NSLATAGDGLIELRKLEAAEDIAYQLSRSRNITYLPAGQSVLLQLPQ

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**FIGURE 4941**

AGATCGATCTAAGATGGCGACCGTCGAACCGGAAACCACCCCTACTCCTAATCCCCGACTACAGAAAAGGAGAA  
AACGGAATCTAATCAGGAGGTTGCTAACCCAGAACACTATATTAAACATCCCCTACAGAACAGATGGGCACTCTG  
GTTTTTTAAAAATGATAAAAGCAAAACTTGGCAAGCAAACCTTGTGGCTGATCTCCAAGTTTGATACTGTTGAAGA  
CTTTTGGGCTCTGTACAACCATATCCAGTTGTCTAGTAATTTAATGCCTGGCTGTGACTACTCACTTTTTTAAGGA  
TGGTATTGAGCCTATGTGGGAAGATGAGAAAAACAAACGGGGAGGACGATGGCTAATTACATTGAACAAAACAGCA  
GAGACGAAGTGACCTCGATCGCTTTTGGCTAGAGACACTTCTGTGCCTTATTGGAGAATCTTTTGATGACTACAG  
TGATGATGTATGTGGCGCTGTTGTTAATGTTAGAGCTAAAGGTGATAAGATAGCAATATGGACTACTGAATGTGA  
AAACAGAGAAGCTGTTACACATATAGGGAGGGTATACAAGGAAAGGTTAGGACTTCCTCCAAAGATAGTGATTGG  
TTATCAGTCCCACGCAGACACAGCTACTAAGAGCGGCTCCACCCTAAAATAGGTTTGTGTTTAAGAAGACAC  
CTTCTGAGTATTCTCATAGGAGACTGCGTCAAGCAATCGAGATTTGGGAGCTGAACCAAAGCCTCTTCAAAAAGC  
AGAGTGGACTGCATTTAAATTTGATTTCCATCTAAATGTTACTCAGATATAAGAGAAGTCTCATTCGCCTTTGTC  
TTGTACTTCTGTGTTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTGGCTAGAGTTTACACTATCCCAATCAAAGAA  
TTACAGTACACATCTCCAGAATCCATAAATGTGTTCCCTGGCCCACTCTGTAATAGTTCAGTAGAATTACCATTAA  
TTACATACAGATTTTACCTATCCACAATAGTCAGAAAACAACCTTGGCATTCTATACTTTACAGGAAAAAAAATT  
CTGTTGTTCCATTTTATGCAGAAGCATATTTTGCTGGTTTGAAAGATTATGATGCATACAGTTTCTAGCAATTT  
TCTTTGTTTCTTTTTTACAGCATTGTCTTTGCTGTACTCTTGCTGATGGCTGCTAGATTTTAATTTATTTGTTTCC  
CTACTTGATAATATTAGTGATTCTGATTTTCACTTTTCACTTTGTTTTGCTTTTGTGTTTTTTCCTCATGTAACATT  
GGTGAAGGATCCAGGAATATGACACAAAGGTGGAATAAACATTAATTTTGTGCATTCTTTGGTAATTTTTTTTTGT  
TTTTTGTAACCTACAAAGCTTTGCTACAAATTTATGCATTTCACTTCAAATCAGTGATCTATGTTTGTGTGATTTC  
TAAACATAATTGTGGATTATAAAAAATGTAACATCATAATTACATTCCTAACTAGAATTAGTATGTCTGTTTTTG  
TATCTTTATGCTGTATTTTAACTTTGTATTACTTAGGTTATTTTGCTTTGGTTAAAAATGGCTCAAGTAGAAA  
AGCAGTCCCATTTCATATTAAAACAGTGTACAAAACCTGTAAATAAAATGTGTACAGTGAATTGTCCTT

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**FIGURE 4942**

AGATCGATCTAAGATGGCGACCGTCGAACAGATGGGCACTCTGGTTTTTTAAAAATGATAAAAGCAAAACTTGGC  
AAGCAAACCTTGTGGCTGATCTCCAAGTTTGATACTGTTGAAGACTTTTGGGCTCTGTACAACCATATCCAGTTGT  
CTAGTAATTTAATGCCTGGCTGTGACTACTCACTTTTAAAGGATGGTATTGAGCCTATGTGGGAAGATGAGAAAA  
ACAAACGGGGAGGACGATGGCTAATTACATTGAACAAACAGCAGAGACGAAGTGACCTCGATCGCTTTTGGCTAG  
AGACACTTCTGTGCCTTATTGGAGAATCTTTTGATGACTACAGTGATGATGTATGTGGCGCTGTTGTTAATGTTA  
GAGCTAAAGGTGATAAGATAGCAATATGGACTACTGAATGTGAAAACAGAGAAGCTGTTACACATATAGGGAGGG  
TATACAAGGAAAGGTTAGGACTTCCTCCAAAGATAGTGATTGGTTATCAGTCCACGCAGACACAGCTACTAAGA  
GCGGCTCCACCACTAAAAATAGGTTTGTGTTTAAGAAGACACCTTCTGAGTATTCTCATAGGAGACTGCGTCAA  
GCAATCGAGATTTGGGAGCTGAACCAAAGCCTCTTCAAAAAGCAGAGTGGACTGCATTTAAATTTGATTTCCATC  
TAAATGTTACTCAGATATAAGAGAAG

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**FIGURE 4943A**

GCCGAGCACCGCGCACCGCGTCATGGGGGCCGCTCGGGGCCGCGGGGGCGGGGGCTGCTGCTGCCGCTGCCGCT  
GCTGTTGCTGCTXGCCGCCGAGCCCCGCCCTGGCGTTGXGXACCCCGGGCTGCAGCCCXGAACTTTTCTXGCTG  
ACGAGGCCGGGGCGCAGCTCTTCGCGCAGAGCTACAACTCCAGCGCCGAACAGGTGCTGTTCCXAGAGCGTGGCC  
GCCAGCTGGGGCGACGACACCAACATCACCGCGGAGAATGXXXXXXXXXXGAGGAAGCAGCCCTGCTCAGCCAG  
GAGTTXGCGXGGAGGCCTXGGGGCAGXAAGGCCAAXGGAGCTGTATGAACCGATCTGGCAGAACTTCACGGXACC  
XCGCAXGCTGCGCAGGATCATCGGAGCTGTGCGCACCCCTGGGCTCTGCCAACXCTGCCCCCTGGCTAAGCGGCAGC  
AGTACAACGCCCTGCTAAGCAACATGAGCAGGATCTACTCCACCGCCAAGGTCTGCCTCCCCAACAAGACTGCCA  
CCTGCTGGTCCCTGGACCCAGATCTCACCAACATCCTGGCTTCTCGCGAACTACGXCCATGCTCCTGTTTGCCT  
GGGAGGGCTGGCACAATGCTGCGGGCATCCCGCTGAAACCGCTGTACGAGGATTTCACTGCCCTCAGCAATGAAG  
CCTACAAGCAGGACGGCTTCACAGACACGGGGGCTACTGGCGCTCCTGGTACAACCTCCCCACCTTCGAGGACG  
ATCTGGAACACCTCTACCAACAGCTAGAGCCCCCTCTACCTGAACCTCCATGCCTTCGTCCGCCGCGCACTGCATC  
GCCGATACGGAGACAGATACATCAACCTCAGGGGACCCATCCCTGCTCATCTGCTGGGAGACATGTGGGGCCAGA  
GCTGGGAAAACATCTACGACATGGTGGTGCCCTTCCAGACAAGCCCAACCTCGATGTCACCAGTACTATGCTGC  
AGCAGGGCTGGAACGCCACGCACATGTTCCGGGTGGCAGAGGAGTTCTTCACCTCCCTGGAGCTCTCCCCATGC  
CTCCCGAGTTCTGGGAAGGGTCGATGCTGGAGAAGCCGGCCGACGGGCGGGAAGTGGTGTGCCACGCCTCGGCTT  
GGGACTTCTACAACAGGAAAGACTTCAGGATCAAGCAGTGACACGGGTCACGATGGACCAGCTCTCCACAGTGC  
ACCATGAGATGGGCCATATACAGTACTACCTGCAGTACAAGGATCTGCCCCGTCTCCCTGCGTCGGGGGGCCAAACC  
CCGGCTTCCATGAGGCCATTGGGGACGTGCTGGCGCTCTCGGTCTCCACTCCTGAACATCTGCACAAAATCGGCC  
TGCTGGACCGTGTACCAATGACACGGAAAGTGACATCAATTACTTGCTAAAAATGGCACTGGAAAAAATTGCCT  
TCTGCCCTTTGGCTACTTGGTGGACAGTGGCGCTGGGGGGTCTTTAGTGGCGTACCCCCCTTCCCGCTACA  
ACTTCGACTGGTGGTATCTTCGAACCAAGTATCAGGGGATCTGTCTCCTGTTACCCGAAACGAAACCCACTTTG  
ATGCTGGAGCTAAGTTTTCATGTTCCAAATGTGACACCATACATCAGGTACTTTGTGAGTTTGTCTGCAGTTCC  
AGTTCCATGAAGCCCTGTGCAAGGAGGCAGGCTATGAGGGCCACTGCACCAGTGTGACATCTACCGTCCACCA  
AGGCAGGGGCCAAGCTCCGGAAGGTGCTGCAGGCTGGCTCCTCCAGGCCCTGGCAGGAGGTGCTGAAGGACATGG  
TCGGCTTAGATGCCCTGGATGCCAGCCGCTGCTCAAGTACTTCCAGCCAGTCACCCAGTGGCTGCAGGAGCAGA  
ACCAGCAGAACGGCGAGGTCTGGGCTGGCCCGAGTACCAGTGGCACCCGCCGTTGCCTGACAACCTACCCGGAGG  
GCATAGACCTGGTGAATGATGAGGCTGAGGCCAGCAAGTTTGTGGAGGAATATGACCGGACATCCCAGGTGGTGT  
GGAACGAGTATGCCGAGGCCAACTGGAACCTACAACACCAACATCACCACAGAGACCAGCAAGATTCTGCTGCAGA  
AGAACATGCAAAATAGCCAACCACACCCTGAAGTACGGCACCCAGGCCAGGAAGTTTGTATGTGAACCAAGTTGCAGA  
ACACCACTATCAAGCGGATCATAAAGAAGTTTCAGGACCTAGAACGGGCAGCACTGCCTGCCAGGAGCTGGAGG  
AGTACAACAAGATCCTGTTGGATATGGAACCACTACAGCGTGGCCACTGTGTGCCACCCGAATGGCAGCTGCC  
TGCAGCTCGAGCCAGATCTGACGAATGTGATGGCCACGTCCCGGAAATATGAAGAOCTGTTATGGGCGATGGGAGG  
GCTGGCGAGACAAGGCGGGGAGGCCATCCTCCAGTTTTACCCGAAATACGTGGAACCTCATCAACCAGGCTGCCC  
GGCTCAATGGCTATGTAGATGCAGGGGACTCGTGGAGGTCTATGTACGAGACACCATCCCTGGAGCAAGACCTGG  
AGCGGCTCTTCCAGGAGCTGCAGCCACTCTACCTCAACCTGCATGCCTACGTGCGCCGGGGCCCTGCACCGTCACT  
ACGGGGCCCAGCAGATCAACCTGGAGGGGGCCATTCTGCTCACCTGCTGGGGAACATGTGGGCGCAGACCTGGT  
CCAACATCTATGACTTGGTGGTGCCCTTCCCTTCAGCCCCCTCGATGGACACCACAGAGGCTATGCTAAAGCAGG  
GCTGGACGCXCCAGGAGGATGTTTAAGGAGGCTGATGATTTCTTCACCTXCCCTGGGGCTGCTGCCCCGTGCCCTCC  
TGAGTTCTGGAACAAGTCGATGCTGGAGAAGCCAACCGACGGGCGGGAGGTGGTCTGCCACGCCTCGGCCCTGGGA  
CTTCTACAACGGCAAGGACTTCCGGATCAAGCAGTGACACCACCGTGAACCTTGGAGGACCTGGTAGTGGCCACCA  
CGAAATGGGCCACATCCAGTATTTTCATGCAGTACAAAGACTTACCTGTGGCCTTGAGGGAGGGTGCCAACCCCGG  
CTTCCATGAGGCCATTGGGGACGTGCTAGCCCTCTCAGTGTCTACGCCCAAGCACCTGCACAGTCTCAACCTGCT  
GAGCAGTGAGGGTGGCAGCGACGAGCATGACATCAACTTTCTGATGAAGATGGCCCTTGACAAGATCGCCTTTAT  
CCCCTTCAGCTACCTCGTCGATCAGTGGCGCTGGAGGGTATTTGATGGAAGCATCACCAGGAGAACTATAACCA  
GGAGTGGTGGAGCCTCAGGCTGAAGTACCAGGGCCTCTGCCCCCAGTGCCAGGACTCAAGGTGACTTTGACCC  
AGGGGCCAAGTTCCACATTCCTTCTAGCGTGCTTACATCAGGTACTTTGTGAGCTTCATCATCCAGTTCCAGTT  
CCACGAGGCACTGTGCCAGGCAGCTGGCCACACGGGGCCCCCTGCACAAGTGTGACATCTACCAGTCCAAGGAGGC  
CGGGCAGCGCCTGGCGACCGCCATGAAGCTGGGCTTCAGXTAGGCCGTGGCCGGAXAGCCATGCAGCTGATCAGC

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**FIGURE 4943B**

XXGGCCAGCCCXAACATGAGCGCCTCGGCCATGTTGAGCTACTTCAAGCCGCTGCTGGAXCTGGCTCCGCACGGA  
GAACGAGCTGCATGGGGAGAAGCTGGGCTGGCCGCAGTACAACCTGGACGXCCGAACTCCGCTCGCTCAGAAGGGC  
CCCTCCCAGACAGCGGCCGCGTCAGCTTXXCCTGGGCCTGGACCTGGATGCGCAGGAGGCCCGCGTGGGCXCAGXT  
GGCTGCTGCTCTTCCTGGGCATCGCCCTGXCTGGTAGCCACCCTGGGCCTCAGCCAGCGGCTXCTTXXCAGCATCC  
GCCACCGCAGCCTCCACCGGCACTCCACGGGCCCCAGTTCGGCTCCGAGGTGGAGCTGAGACACTCCTGAGGTG  
ACCCGGCTGGGTGCGCCCTGCCCAAGGGCCTCCCACCAGAGACTGGGATGGGAACACTGGTGGGCAGCTGAGG



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**FIGURE 4944**

TGACCCAGGACTCTTTGTTTATTGCTGTGATTTTTCTTCCACAGCTATAGAACTGGTCCAGACAAATTCAGAATA  
TGATCCTTCTCGGTGTTTTGCCTTTGTTTCACGACCTGTGTGATGAAGAGAAGAGTTACCCAGTGCCCAAGGGCAG  
TCTTGATATTATCATTCTCATATTTGTTCTTTTCAGCAATTGTTCCAGACAAGATGCAGAAGGCTATCAACAGGCT  
GAGCAGGCTTCTGAAACCTGGCGGGATGATGCTTCTGCGAGATTACGGCCGCTATGACATGGCTCAGCTTCGGTT  
TAAAAAAGGTCAGTGTCTATCTGGAATTTCTACGTGAGAGGTGATGGAACCAGAGTTTACTTCTTCACACAAGA  
GGAACCTGGACACGCTTTTCACCACTGCTGGACTGGAAAAAGTTTCAGAACCTGGTGGATCGCCGACTGCAGGTGAA  
CCGAGGAAAGCAACTGACAATGTACCGGGTTTGGATTTCAGTGCAAAATACTGCAAGCCCCTTCTGTCCAGCACCAG  
CTGAGAGGCACCTGCTGCCAACACGATGCAAGCCCATTGTGTTTTCCGGGCTTTTTTAAAAAAAAAAATTGTAGCAC  
TGGGCGTGGTGCATGCCTGTAATCCCAGCCACTCAGGAGGCTGAGGCGGGGAGGATCCATTGAGCCCAGCAGTCC  
AACCTGGGCAAAATAGTGAGAGACCCTGTATCTGAAAGTAATAATAAAAAATAAAAAATATAAATGAGGTCTCGTT  
GATGTTGGACAATTCAAGAATTCAGACTTGAACCTTAAACCTAGGAAAAGTTACTTTGTATCAGGATTCTAACAA  
TTATGCTTCATATTTGTGAAGTCCTTTAAAACATAATTTTCTCAAGTTCTTTCTTTGAGATCTCAATCTGTCTTA  
GCATTTTGTAACTAATAACTGAAATTTTATTCAAAGGAATTGTAAACCTTAAACCACCAATTTATTTCCATGTGA  
AAAAGTGTTACATATGACAAGTGTTTTTTGACTGTAATTGCGTTAAATCTTTTGAGAATGTAAATGCCGGGCTAG  
GCAATTGCAGTTAATACATACAGAGGTTAGTGAAGGGCTTATTAAGTTGTAGGGGAAGCAAGCTGGGAAGAATCA  
GATCAGATATTTTCCTGAC

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**FIGURE 4945**

AGGTTGAGCTTGTTGGTTTAGATGAGGAGAGTTGAGAGTTTATTTGCAGAAACACCTTTGACCACCCATACCCCA  
CCACAAAGCTCATGTGGATCCCTGACACAAAAGGCGTCTATCCAGACCTACTGGCAACAAGCGGTGACTATCTCC  
GTGTGTGGAGGGTTGGTGAACAGAGACCAGGCTGGAGTGTGTTGCTAAACAATAATAAGAACTCTGATTTCTGTG  
CTCCCTGACCTCCTTTGACTGGAATGAGGTGGATCCTTATCTTTTAGGTACCTCAAGCATTGATACGACATGCA  
CCATCTGGGGGCTGGAGACAGGGCAGGTGTTAGGGCGAGTGAATCTCGTGTCTGGCCACGTGAAGACCCAGCTGA  
TCGCCCATGACAAAGAGGTCTATGATATTGCATTTAGCCGGGCGGGGGTGGCAGGGACATGTTTGCCTCTGTGG  
GTGCTGATGGCTCGGTGCGGATGTTTGACCTCCGCCATCTAGAACACAGCACCATCATTTACGAAGACCCACAGC  
ATCACCCACTGCTTCGCCTCTGCTGGAACAAGCAGGACCCTAACTACCTGGCCACCATGGCCATGGATGGAATGG  
AGGTGGTGATTCTAGATGTCCGGGTTCCCTGCACACCTGTGCGCCAGGTTAAACAACCATCGAGCATGTGTCAATG  
GCATTGCTTGGGCCCCACATTCATCTGCCACATCTGCACTGCAGCGGATGACCACCAGGCTCTCATCTGGGACA  
TCCAGCAAATGCCCCGAGCCATTGAGGACCCTATCTGGCCTACACAGCTGAAGGAGAGATCAACAATGTGCAGT  
GGGCATCAACTCAGCCCGACTGGATCGCCATCTGCTACAACAAGTGCCTGGAGATACTCAGAGTGTAGTGTGGT  
GGCGCTGTGCCCACGAGGCAGGGGCTTTTGTATTTCTGCTCTGCCCCACCCCCAAAGTAAGAAGAAACATGTT  
TCCAGTGGCCAGTATGTCTTTTATTGCTTTGCACCCACTGTTACCAGAAGCTGCTCTAGGAGTTCTGGCCAGTC  
ACCCCATCGCCCTCTGTGGCAGACTCAGTGCTGTGTGGCGCCTCCTCAGCCCAGGGCTGAGTTTAAAGATTTTCT  
CTCCTTCTCTTCTCCTTTGGTTCCTCAATTAA

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**FIGURE 4946**

ATGAGTGGCTCCTTCGATCGCAAGCTCAGCAGCATCCTCACCGACATCTCCAGCTCCCTTAGCTGCCATGCGGGC  
TCCAAGGACTCGCCTACCCGAGTCTTCTGTCACTGACCTGGGCTACTACAGCGCTCCCCAGCACGATTAC  
TACTCGGGCCAGCCCTATGGCCAGACGGTGAACCCCTACACCTACCACCACCAATTCAATCTCAATGGGCTTGCA  
GGCACGGGCGCTTACTCGCCCAAGTCGGAATATACCTACGGAGCCTCCTACCGGCAATACGGGGCGTATCGGGAG  
CAGCCGCTGCCAGCCCAGGACCCAGTGTCGGTGAAGGAGGCCGGAAGCAGAGGTGCGCATGGTGAATGGGAAG  
CCCAAGAAGGTCCGAAAGCCGCGTACAATCTACTCCAGCTACCAGCTGGCCGCCCTGCAGCGCCGCTTCCAGAAG  
GCCCAGTACCTGGCGCTGCCCAGCGCGCCGAGCTGGCCGCGCAGCTGGGCCTCACGCAGACACAGGTGAAAATC  
TGGTTCAGAACCGCCGTTCCAAGTTCAAGAACTCTACAAGAACGGGGAGGTGCCGCTGGAGCACAGTCCCAAT  
AACAGTGATTCCATGGCCTGCAACTCACCACCATCACCCGCCCTCTGGGACACCTCTTCCCACTCCACTCCGGCC  
CCTGCCCCGAGTCAGCTGCCCCCGCCGCTCCCATACAGTGCTCCCCCAGCTACCTGGACGACCCACCAACTCC  
TGGTATCACGCACAGAACCTGAGTGGACCCCACTTACAGCAGCAGCCGCTCAGCCAGCCACCCTGCACCATGCC  
TCTCCCGGGCCCCGCCCAACCCTGGGGCTGTGTACTTGA

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**FIGURE 4947**

MSGSFDRKLSSILTDISSSLSCHAGSKDSPTLPESSTDLGYYSAPQHDIYSGQPYGQTVNPFYTYHHQFNLNGLA  
GTGAYSPKSEYTYGASYRQYGAYREQPLPAQDPVSVKEEPEAEVRMVNGKPKKVRKPRTIYSSYQLAALQRRFQK  
AQYLALPERAELAAQLGLTQTQVKIWFQNRRSKFKKLYKNGEVPLEHSPNNSDSMACNSPPSPALWDTSSHSTPA  
PARSQLPPPLPYASPSYLDPTNSWYHAQNLSGPHLQQQPPQATLHHASPGPPPNPGAVY

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**FIGURE 4948**

CCCGTCACCAAGCTGGGCCGCTTGGTCAAGGAAATGAAAGATCAAATCCCTGGAGGAGATCTATCCCTTCTCCCTG  
CCCATTAAGGTATCTGAGATCATTGACTTTTTCTGGGGGCCTCTCTTAAGGACGAGGTTTTGAAGATTATGTCG  
GTGCAGAAGCAGACCCGCTGCGGCTCTGTGCTGGTGCGCCTCATCCCTGCACCCAGGGGCACTGGCATTGTCTCC  
GCACCTGTGCCCAAGAAGCTGCTCATGATAGCTGGTATCGATGACTGCTACACCTCAGCCCGGGGCTGCACTGCC  
ACCCTGGGCAACTTCGCCAAGGCCACCTTTGACGCCATCTCTAAGACCTACAGCTACCTGACCCCCGACCTCTGG  
AAGGAGACTGTATTTACCAAGTCTCCCTGTCAGGAATTCAGTACCACCTCGTCAAGACCCACACCAGAGTCTTC  
GTGCAGCAGACCCAGGCTCCAGCTGTGGCTACAACATTAGGTTTTTATACAAGAAAAATAAAGTGAATTAAGC

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**FIGURE 4949**

MKIKSLEEIYPFSLPIKVSEIIDFFLGASLKDEVLKIMSVQKQTRCGSVLVRLIPAPRG TGIVSAPVPKKLLMIA  
GIDDCYTSARGCTATLGNFAKATFDAISK TYSYLTPDLWKETVFTKSPCQEFTDHLVKTHTRV FVQQTQAPAVAT  
T

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**FIGURE 4950**

AGACCCTTTTTACAAGATGGCGCCGAAAGCGAAGAAGGAAGCTCCTGCCCCCTCCTAAAGCCGAAGCCAAAGCGAA  
GGCTTTTAAAGGCCAAGAAGGCAGTGTTGAAAGGTGTCCACAGCCACAAAAAGAAGAAGATCCGCACGTCACCCAC  
CTTCCGGCAGCCGAAGACACTGCGACTCTGGAGACAGCCCAAATATCCTCGGAAGAGCGCTCCCAGGAGAAACAA  
GCTTGACCACTATGCTATCATCAAGTTTCCGCTGACCACTGAGTCTGCCATGAAGAAGACAGAAGACAACAACAC  
ACTTGTGTTTCCTTGTGGATGTTAAAGCCAACAAGCACCAGATTAAACAGGCTGTGAAGAAGCTCTATGACATTGA  
TGTGGCCAAGGTCAACACCCTGATTTGGCCTGATGGAGAGAAGAAGGCATATGTTCGACTGGCTCCTGGTTACGA  
TGCTTTGGATGTTGCCAACAAAATTGGGATCATCTAACTGAGTCCAGCTGCCTAATTCTGAATATATATATATA  
TATATATATATATATATATATATCTTTTCACCAT

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**FIGURE 4951**

GCAACCGCAGCCCAGCCCCAGTCCGGGAGGAAGTTCTGCCGGGCGCTCTCCGCCGGTGCCTCACTGGTTATAGTG  
CTATACAGGAAACCTGGCAGCGCCGGAGCCGCGCGGTTCGAGGAGGGAGCGCGGGACCCGAGCCCACGCGCGCCT  
GCCGGGACAAGTGGAGACGAGGCCGGCGAGCGGACGCCCCGAGGTTTGGCGAAGGAGCTGTGGCCGGGTCCCTT  
CTTATCCAGCCCGAGACACTGCGCTCCGGTGGGCGTCCCTGCGCTGGGAATCCCTCTCGGAGTTTTTCCAGGCC  
GGCCGGGTGCTCCGGGAAAGGCCCTGTTGGGGGAGGTGGGCCCGGAGCTGGCAGGTCTACAATCCGGTTGGAAG  
GGCTCGCAGTGGGTGATTCAAGGTGCCAATGACCTCCCCGCGAACGGGAACGCCCGCACTAGACAACCAGCCCCA  
GACCGGCATTCCCAGAGCCGAGGCGGGAGGGACGCAGGGACTCCGGGACAGCAAATCCCCGGGGGAGAAGGGAA  
GGGGGAAGGCGGGACAGGGGAGGCCACCCTCCTTGGGCTCCGCTAGCGACCAGCCAGCGCCCTTCAGACGCAG  
CCTTCCTGGCTCCGGACCCCGGCTTTCTGCTCCGGTCTCGTCCCAATGCCCCCAAGGTCCCCAGCAGAGGCAT  
TCAGGTTCTCTCGCCCCGCCAGACGCAGCTTCTTTGGGTATGGGTGACAGCACTCCTGAGCGTCGCTGTCCC  
TATTGCTGCGGTTGCCAGCTCCGATTCCGCGAAACCTCTCCGGCACCACTCGGAAGCCCCGCCAGGGCGATG  
GTCCGGGCCTAACCTGCCGGCCCCGCCACCCGGCCCTTGGGCTCCCTGAGGCCCGCCAGCAGACACCGGAGAG  
CAATGGTGTGATCTCCGCACACTGCAACCTCTGCCTCCAGGGTTCAAGTGGTTCTCCTGCCTCAGCCTCCCAAGC  
AGATGGGACTACAGGTACTGGTAGTTAACTCTCAAGGAGAAATTTACGGTTGAGCACCGAAAAAGAAAGTGGTCA  
TGAAAGGAAGTATCAACAATTATCTTAAATTGGGTCAAGAAGGAAGTATCGCGTCTACCACAATCAATACTCCA  
CTAATTCATTTGCTTTGAATAAGCACCAGCACAGAGAAGACCATGATAAGAGAAGGCATCTTGCACATAAGTTCT  
GTCTGACTCCAGCAGGAGAGTTCAAATGGAACGGTTCTGTCCATGGGTCCAAAGTTCTTACCATATCTACTCTGA  
GACTGACTATACCCAATTAGAAAAACAACATCCCTTCATCCTTTCTTCATCCCAACCGGGCATCACATAGGGCAA  
ACTGGATCAAGGCAGTTCAGATGTGTAGCAAACCTCAGAGAATTTGCATTGGCTTTAGCCATTTTGGAGTGTGCAG  
TTAAACCAGTTGTGATGCTACCAATATGGCGAGAATCTTTAGGACATACCAGCTTTCTCCCTTTGTCTCATAACC  
ATGTCCACCAATGAGAATGCTAATACACAAGCTGCCATCTTCACAGATCTAAGAACAAGGGAAAGGACAGTACA  
GAAACGAGGCGTCACAGAATAGAGGTCAATGTGGAGCTGAGGAAAGCTAAGAAGGATGACCAGATGCTGAAGAGG  
AGAAATGTAAGCTCATTTCTGATGATGCTACTTCTCCGCTGCAGGAAACTGCAACAACCAAGGACTCCTGCCCT  
AAGAGCCATAGGGAATATCGTCACTGGTACAGATGAACAGACTCAGGTTGTGATTGATGCAGGAGCACTCGCCGT  
CTTTCCCAGCCTGCTCACCAACCCCAAACTAACATTGAGAAGGAAGCTACGTGGACAATGTCAAACATCACAGC  
CAGCCGCCAGGACCAGATACAGCAAGTTGTGAATCATGGATTAGTCCCATTCCTTGTGTCAGCGATCTCTCTAAGAT  
TTTGAGACACAAAAGGAAGCTGTATGGGCCGTGGAACAGTTGAACAGATTGTGTACCTTGTTCAGTGTGGCATAA  
TAGAACCGTTGATGAACCTCTTACCTGCAAAAAGATACCAAGATTATTCTGGTTATCCTGGATGCCATTTCAAATA  
TCTTTAGGCTGCTGAGAACTAGGTGAACTGAGAACTTAGTATAATGATTGAAGAATGTGGAGGCGTAGACA  
AAATTGAAGCTCTACAAAACCATGAAAATGAGTCTGTATATAAGGCTTCATTAAGCTTAACTGAGAAGTATTTCT  
CTGTAGAGCTGCCAGAGCAGAGCTGAGCCACCCATTGCTGGAGAGGACATCCACGCAGGCCTGGACGAGCCGGAC  
TGCCTTACTAAGGATTTCTCCGTATCTGACTGCAACTCAGCACTCAGCTGCATGCGGGACAGGAAGAGGAAGAT  
CAAAACGTTGTGCCAGAACTACCTCTGAAGGCTACACTTTCCAAGTTCAGGATGGGGCTCCTGGGACCTTTAAC  
TTTTAGATCATGTAGCTGAGGCATAAATTTGTTGTGTACTATGTTTGGTATTTTGTCTTATTGTTTCTCTACTAA  
GAACTCTTTCTTAAATGTGGTTTGTATTGTAGCACTTTTACACTGAACTATACTTGAACAGTTCCAAGTGA  
CATACTGTATGAAGCTTGTCTCTGACTAGGTTTCTAATTTCTATGTGGAATTTCTATCTTGCAGCATCCTGTA  
AATAAACATTCAAGTCCACCCTTTTCTTGACTTC



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**FIGURE 4952**

MTSPRTGTPALDNQPQTGIPRAAGGRDAGTPGQQIPGGEGKGEGGTGEAHPPWAPLATSQRPFRSLPGSGPRLS  
APVLVPMPPKVP SRGIQVPPRPAQTQLLWVWVTALLSVAVPIRCRCQLRFRETSPAPPRKPRPGRWSGPNLEAPP  
TRPLGSLRPAQQTPESNGVISAHCNLCLOGSSGSPASASQADGTTGTGS

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**FIGURE 4953**

GCCAGTGAATTCGGGGGCTCAGCCCTCCTCCCTCCCTTCCCCCTGCTTCAGGCTGCTGAGCACTGAGCAGCGCTC  
AGAATGGAAGCCATCGCCAAATATGACTTCAAAGCTACTGCAGACGACGAGCTGAGCTTCAAAGGGGGGACATC  
CTCAAGGTTTTGAACGAAGAATGTGATCAGAACTGGTACAAGGCAGAGCTTAATGGAAAAGACGGCTTCATTCCC  
AAGAACTACATAGAAATGAAACCACATCCGTGGTTTTTTGGCAAAATCCCCAGAGCCAAGGCAGAAGAAATGCTT  
AGCAAACAGCGGCACGATGGGGCCTTTCTTATCCGAGAGAGTGAGAGCGCTCCTGGGGACTTCTCCCTCTCTGTC  
AAGTTTGGAACGATGTGCAGCACTTCAAGGTGCTCCGAGATGGAGCCGGGAAGTACTTCCTCTGGGTGGTGAAG  
TTCAATTCTTTGAATGAGCTGGTGGATTATCACAGATCTACATCTGTCTCCAGAAACCAGCAGATATTCCTGCGG  
GACATAGAACAGGTGCCACAGCAGCCGACATACGTCCAGGCCCTCTTTGACTTTGATCCCCAGGAGGATGGAGAG  
CTGGGCTTCCGCCGGGGAGATTTTATCCATGTCATGGATAACTCAGACCCCAACTGGTGGAAGGAGCTTGCCAC  
GGGCAGACCGGCATGTTTCCCCGCAATTATGTCACCCCCGTGAACCGGAACGCTTAAGAGTCAAGAAGCAATTAT  
TTAAAGAAAGTGAAAAATGTAAACACATACAAAAGAATTAAACCCACAAGCTGCCTCTGACAGCAGCCTGTGAG  
GGAGTGCAGAACACCTGGCCGGGTCAACCCTGTGACCCTCTCACTTTGGTTGGAACTTTAGGGGGTGGGAGGGGGC  
GTTGGATTTAAAAATGCCAAACTTACCTATAAATTAAGAAGAGTTTTTATTACAAATTTTCACTGCTGCTCCTC  
TTTCCCTCCTTTGTCTTTTTTTTCATCCTTTTTTCTCTTCTGTCCATCAGTGCAATGACGTTTAAGGCCACGTAT  
AGTCCTAGCTGACGCCAATAATAAAAAACAAGAAACCAAAAAAAAAAAAAACCCGAATTCA

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**FIGURE 4954**

MEAIKYDFKATADDELSFKRGDILKVLNEECDQNWYKAELNGKDGFI PKNYIEMKPHPWFFGKIPRAKAEEMLS  
KQRHDGAFLIRESEAPGDFSLSVKFGNDVQHFKVLRDGAGKYFLWVVKFNSLNELVDYHRSTSVSRNQQIFLRD  
IEQVPQQPTYVQALFDFDPQEDGELGFRRGDFIHVMDNSDPNWWKGACHGQTGMFPRNYVTPVNRNV

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**FIGURE 4955**

GGCACGAGGGCTCTGAGCGGGAGGCCTGAGCGGGAAGCATTGGCGTCCGAGCGACTTCTAGGAGCCTGGGGTTTCG  
GCGCTATGGAGGAGCTCGATGGCGAGCCAACAGTCACCTTTGATTCCAGGCGTGAATTCCAAGAAGAACCAAATGT  
ATTTTGACTGGGGTCCAGGGGAGATGCTGGTATGTGAAACCTCCTTCAACAAAAAGAAAAATCAGAGATGGTGC  
CAAGTTGCCCCCTTTATCTATATCATCCGTAAGGATGTAGATGTTTACTCTCAAATCTTGAGAAAACTCTTCAATG  
AATCCCATGGAATCTTTCTGGGCCTCCAGAGAATTGACGAAGAGTTGACTGGAAAAATCCAGAAAAATCTCAATTGG  
TTCGAGTGAGTAAAACTACCGATCAGTCATCAGAGCATGTATGGAGGAAATGCACCAGGTTGCAATTGCTGCTA  
AAGATCCAGCCAATGGCCGCCAGTTCAGCAGCCAGGTCTCCATTTTGTGAGCAATGGAGCTCATCTGGAACCTGT  
GTGAGATTCTTTTTATTGAAGTGGCCCCAGCTGGCCCTCTCCTCCTCCATCTCCTTGACTGGGTCCGGCTCCATG  
TGTGCGAGGTGGACAGTTTGTGCGCAGATGTTCTGGGCAGTGAGAATCCAAGCAAACATGACAGCTTCTGGAAC  
TGGTGACCATCTTGGTGCTGCAGGGCCGGCTGGATGAGGCCGACAGATGCTCTCCAAGGAAGCCGATGCCAGCC  
CCGCTCTGCAGGCATATGCCGAATCATGGGGGACCTGATGAGGACAATGCCATTCTTAGTCTGGGAACACCC  
AGACACTGACAGAGCTGGAGCTGAAGTGGCAGCACTGGCAGGGAATGTGAGCGGTACCTCCAGGACAGCACAT  
TCGCCACCAGCCCTCACCTGGAGTCTCTCTTGAAGATTATGCTGGGAGACGAAGCTGCCTTGTTAGAGCAGAAGG  
AACTTCTGAGTAATTGGTATCATTTCCTAGTGACTCGGCTCTTGTACTCCAATCCCACAGTAAAAACCCATTGATC  
TGCACTACTATGCCCAGTCCAGCCTGGACCTGTTTCTGGGAGGTGAGAGCAGCCAGAACCCCTGGACAACATCT  
TGTTGGCAGCCTTTGAGTTTGACATCCATCAAGTAATCAAAGAGTGCAGCATCGCCCTGAGCAACTGGTGGTTTG  
TGGCCACCTGACAGACCTGCTGGACCACTGCAAGCTCCTCCAGTCACACAACCTCTATTTTCGGTTCCAACATGA  
GAGAGTTCCTCCTGCTGGAGTACGCCTCGGGACTGTTTGCTCATCCAGCCTGTGGCAGCTGGGGGTCGATTACT  
TTGATTACTGCCCCGAGCTGGGCCGAGTCTCCCTGGAGCTGCACATTGAGCGGATACCTCTGAACACCGAGCAGA  
AAGCCCTGAAGGTGCTGCGGATCTGTGAGCAGCGGCAGATGACTGAACAAGTTCGCAGCATTGTGAAGATCTTAG  
CCATGAAAGCCGTCCGCAACAATCGCCTGGGTTCTGCCCTCTCTTGAGCATCCGTGCTAAGGATGCCGCCTTTG  
CCACGCTCGTGTGACAGAGTTTCTCAGGGATTACTGTGAGCGAGGCTGCTTTTCTGATTGGATCTCATTGACA  
ACCTGGGGCCAGCCATGATGCTCAGTGACCGACTGACATTCTGGGAAAGTATCGCGAGTTCACCGTATGTACG  
GGGAGAAGCGTTTTGCCGACGCAGCTTCTCTCCTTCTGTCCTTGATGACGTCTCGGATTGCCCCCTCGGTCTTTCT  
GGATGACTCTGCTGACAGATGCCTTGCCCCCTTTTGAACAGAAACAGGTGATTTTCTCAGCAGAACAGACTTATG  
AGTTGATGCGGTGTCTGGAGGACTTGACGTCAAGAAGACCTGTGCATGGAGAATCTGATACCGAGCAGCTCCAGG  
ATGATGACATAGAGACCACCAAGGTGGAATGCTGAGACTTCTCTGGCACGAAATCTTGCTCGGGCAATTATAA  
GAGAAGGCTCACTGGAAGGTTCCTGAGAACTGCTTCAATGTGGTATCTTTGTATGGCAATGTATATAGATTTTTT  
AAAAGAATAAATGTTGTTTTGCAAATGTAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 4956**

MEELDGEPTVTLIPGVNSKKNQMYFDWGPGEMLVCETSFNKKEKSEMVPSCFFIYIIRKDVDVYSQILRKLFNES  
HGIFLGLQRIDEELTGKSRKSQLVRVSKNYRSVIRACMEEMHQVAIAAKDPANGRQFSSQVSILSAMELIWNLCE  
ILFIEVAPAGPLLLHLLDWVRLHVCEVDSLADVLGSENPSKHDSFWNLVTILVLQGRLEARQMLSKEADASPA  
SAGICRIMGDLMRTPILSPGNTQTLTELELKWQHWHEECERYLQDSTFATSPHLESLLKIMLGDEAALLEQKEL  
LSNWHFLVTRLLYSNPTVKPIDLHYAQSSLDLFLGGESSPEPLDNILLAAFEFDIHQVIKECSIALSNWWFVA  
HLTDLLDHCKLLQSHNLYFGSNMREFLLLEYASGLFAHPSLWQLGVDYFDYCPSELGRVSLELHIERIPLNTEQKA  
LKVLRICEQRQMTEQVRSICKILAMKAVRNNRLGSALSWSIRAKDAAFATLVSDRFLRDYCYCERGCFSDLIDLIDNL  
GPAMMLSDRLTFLGKYREFHRMYGEKRFADAASLLLSLMTSRIAPRSFWMTLLTDALPLLEQKQVIFS AEQTYEL  
MRCLEDLTSRRPVHGESDTEQLQDDDIETTKVEMLRLSLARNLARAI IREGSLEGS

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**FIGURE 4957**

GGTGCTGCTTGTGTGCTCGTTTGGTGCGGACCTGGTACCTCTTTTGTGAAGCGGCAGCTGAGGAGACTCCGGCGC  
TCGCCATGGCCGACGAAAAGCCCAAGGAAGGAGTCAAGACTGAGAACAACGATCATATTAATTTGAAGGTGGCGG  
GGCAGGATGGTTCTGTGGTGCAGTTTAAGATTAAAGAGGCATACACCACTTAGTAACTAATGAAAGCCTATTGTG  
AACGACAGGGATTGTCAATGAGGCAGATCAGATTCCGATTTGACGGGCAACCAATCAATGAAACAGACACACCTG  
CACAGTTGGAAATGGAGGATGAAGATACAATTGATGTGTTCCAACAGCAGACGGGAGGTGTCTACTGAAAAGGGA  
ACCTGCTTCTTTACTCCAGAACTCTGTTCTTTAAAGACCAAGATTACATTCTCAATTAGAAAACAGCAATTGGT  
TCCACCACATCCTGACTACTACCGTATAGTTTTCTCTATTCTTTCAATTTCCCCCTTCCCCATTCTTTATTGTAC  
ATAAAGTAACTGGTATATGTGCACAAGCATATTGCATTTTTTTTTTTTTTAACTAAACAGCCAATGGTATGTTTT  
GATTGACATCAAGTGGAGACGGGATGGGGAAAAATACTGATTCTGTGAAAATACCCCTTTCTCCATTAGTGGCA  
TGCTCATTAGCTCTTA

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**FIGURE 4958**

GCAGCGGAGCTTCGGCCTCGGCTCTGTACCATGAAGAAGGGCCCCAGTGGCTATGGCTTCAACCTGCACAGCGA  
CAAGTCCAAGCCAGGCCAGTTCATCCGGTCAGTGGACCCAGACTCCCCGGCTGAGGCTTCAGGGCTCCGGGCCCCA  
GGATCGCATTGTGGAGGTGAACGGGGTCTGCATGGAGGGGAAGCAGCATGGGGACGTGGTGTCCGCCATCAGGGC  
TGGCGGGGACGAGACCAAGCTGCTGGTGGTGGACAGGGAACTGACGAGTTCTTCAAGAAATGCAGAGTGATCCC  
ATCTCAGGAGCACCTGAATGGTCCCCTGCCTGTGCCCTTCACCAATGGGGAGATACAGAAGGAGAACAGTCGTGA  
AGCCCTGGCAGAGGCAGCCTTGGAGAGCCCCAGGCCAGCCCTGGTGAGATCCGCCTCCAGTGACACCAGCGAGGA  
GCTGAATTCCCAAGACAGCCCCCAAAACAGGACTCCACAGCGCCCTCGTCTACCTCCTCCTCCGACCCCATCCT  
AGACTTCAACATCTCCCTGGCCATGGCCAAAGAGAGGGGCCACCAGAAACGCAGCAGCAAACGGGGCCCCGCAGAT  
GGACTGGAGCAAGAAAAACGAACTCTTCAGCAACCTCTGAGCGCCCTGCTGCCACCCAGTGACTGGCAGGGCCGA  
GCCAGCATTCCACCCACCTTTTTCTTCTCCCAATTACTCCCCCTGAATCAATGTACAAATCAGCACCCACATC  
CCCTTTCTTGACAAATGATTTTTCTAGAGAACTATGTTCTTCCCTGACTTTAGGGAAGGTGAATGTGTTCCCGTC  
CTCCCGCAGTCAGAAAGGAGACTCTGCCTCCCTCCTCCTCACTGAGTGCCTCATCCTACCGGGTGTCCCTTTGCC  
ACCCTGCCTGGGACATCGCTGGAACCTGCACCATGCCAGGATCATGGGACCAGGCGAGAGGGCACCCCTCCCTTCC  
TCCCCCATGTGATAAATGGGTCCAGGGCTGATCAAAGAACTCTGACTGCAGAACTGCCGCTCTCAGTGGACAGGG  
CATCTGTTACCCTGAGACCTGTGGCAGACACGTCTTGTTTTTCATTTGATTTTGTAAAGAGTGCAGTATTGCAGA  
GTCTAGAGGAATTTTGTTCCTTGATTAACATGATTTTCTGGTTGTTACATCCAGGGCATGGCAGTGGCCTCA  
GCCTTAAACTTTTGTTCCTACTCCACCCCTCAGCGAACTGGGCAGCACGGGGAGGGTTTGGCTACCCCTGCCCAT  
CCCTGAGCCAGGTACCACCATTGTAAGGAAACACTTTTCAAGAAATTCAGCTGGTTCCTCCAAACC

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**FIGURE 4959**

MSADAAAGAPLPRLCCLEKGPNGYG FHLHGEKGKLGQYIRLVEPGSPA EKAGLLAGDRLVEVNGENVEKETHQOV  
VSRIRAAALNAVRLLVVDPETDEQLQKLG VQVREELLRAQEAPGQAEPPAAA EVQGAGNENEPREADKSHPEQREL  
RPRLCTMKKGPSGYGFNLHSDKSKPGQFIRSVDPDSPAEASGLRAQDRIVEVNGVCM EKGQHG DVVS AIRAGGDE  
TKLLVVDRETDEFFKKCRVIP SQEHLNGPLPVPFTNGEIQKENSREALAEAALES PRPALVRSASSDTSEELNSQ  
DSPPKQDSTAPSSSTSSDPILDFNISLAMAKERAHQKRSSKRAPQMDWSKKNELFSNL



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**FIGURE 4960**

CGCCCAGCAGCCCGTGGGCAGGCGCGGCGGAGCGAGCGGGGCCGCGGGCGCGCCGAGGGACGCCGAGGCCTCG  
GGCGGGGGCTGGCCCCGGGGTTCCAGGTCTCCAGTGGGGGCTGCAGACTAAGCAAAATGAGGCGGTTCTTGAGGCC  
AGGGCATGACCCCTGTGCGGGAGAGGCTCAAGCGGGACCTGTTCCAGTTTAAACAAGACGGTGGAGCATGGCTTCCC  
GCACCAGCCCAGCGCCCTCGGCTACAGCCCGTCCCTGCACATCCTGGCCATCGGCACCCGTTCTGGAGCCATCAA  
GCTCTACGGAGCCCCAGGCGTGGAGTTTCATGGGGCTGCACCAGGAGAAACAACGCTGTGACGCAGATCCACCTCCT  
GCCCCGCCAGTGCCAGCTGGTCACCCTGCTGGATGACAACAGCCTGCACCTTTGGAGCCTGAAGGTCAAGGGCGG  
GGCATCGGAGCTGCAGGAGGATGAGAGCTTCACACTGCGTGGACCCCCAGGGGCTGCCCCAGTGCCACACAGAT  
CACCGTGGTCTTGCCACATTCCTCCTGCGAGCTGCTCTACCTGGGCACCGAGAGTGGCAACGTGTTTGTGGTGCA  
GCTGCCAGCTTTTCGTGCGCTGGAGGACCGGACCATCAGCTCGGACCGCGGTGCTGCAGCGGTTGCCAGAGGAGGC  
CCGCCACCGGCGTGTGTTGAGATGGTGGAGGCACTGCAGGAGCACCCCTCGAGACCCCAACCAGATCCTGATCGG  
CTACAGCCGAGGCCTCGTTGTCTCTGGGACCTACAGGGCAGCCGCGTCTTACCACTTCCTCAGCAGCCAGCA  
ACTGGAGAACATCTGGTGGCAGCGGGACGGCCGCTGCTCGTCAGCTGTCACTCTGACGGCAGCTACTGCCAGTG  
GCCCGTGTCCAGCGAAGCCCAGCAACCAGAGUCCCTCCGCAGCCTCGTGCCCTTACGGTCCCTTTTCTTGCAAAGC  
GATTACCAGAATCCTCTGGGTGACCACTAGGCAGGGGTTGCCCTTACCATCTTCCAGGGTGGCATGCCACGGGC  
CAGCTACGGGGACCGCCACTGCATCTCAGTGATCCACGATGGCCAGCAGACGGCCTTCGACTTCACCTCCCGTGT  
CATCGGCTTCACTGTCTCTACAGAGGCAGACCCTGCAGCCACCTTTGACGACCCCTATGCCCTGGTGGTGTCTGGC  
TGAGGAGGAGCTGGTGGTGATTGACCTGCAGACAGCAGGCTGGCCACCGGTCCAGCTGCCCTACCTGGCTTCTCT  
GCACTGTTCCGCCATCACCTGCTCTCACCACGTCTCCAACATCCCGCTGAAGCTGTGGGAGCGGATCATTGCCGC  
CGGCAGCCGGCAGAACGCACACTTCTCCACCATGGAGTGGCCAATTGATGGTGGCACCAGCCTGACCCAGCCCC  
ACCCAGAGGGACCTGCTGCTCACAGGGCACGAGGACGGCACGGTGCAGTTCTGGGATGCCTCGGGTGTCTGCCT  
GCGGCTGCTCTACAACTCAGCACTGTGCGCGTGTTCCTCACCAGACAGGACCCCAACGAGAACTTCAGTGCCCA  
GGGCGAGGACGAGTGCCCCCACTCCGCAAGGTGGGCTCCTTTGACCCCTACAGTGATGACCCCGGCTGGGCAT  
CCAGAAGATCTTCTCTGCAAGTACAGCGGCTACCTGGCTGTGGCAGGCACGGCAGGGCAGGTGCTGGTACTGGA  
ACTGAATGACGAGGCAGCGGAGCAGGCTGTGGAGCAGGTGGAGGCCGACCTGCTGCAGGACCAAGAGGGCTACCG  
CTGGAAGGGGCACGAGCGCCTGGCAGCCCGCTCAGGGCCCGTGCCTTTGAGCCTGGCTTTCAGCCCTTCGTGTT  
GGTGCAGTGTACGCCCCGGCTGTGGTACCTCCTTGGCCCTGCACTCTGAGTGGCGGCTCGTGGCCTTCGGCAC  
CAGCCATGGCTTTGGCCTCTTTGACCACCAGCAGCGCGGCAGGTCTTTGTTAAGTGACACTGCACCCAGTGA  
CCAGCTGGCCTTGGAGGGGCCACTCTCCGCGTCAAGTCCCTCAAGAAGTCCCTGCGTCAGTCATTCCGCCGGAT  
GCGTCGGAGCCGGGTGTCCAGCCGGAAGCGGCACCCGGCTGGCCCCCAGGAGAGGCACAGGAGGGGAGTGCCAA  
GGCTGAGCGGCCAGGCCTCCAGAACATGGAGCTGGCGCCTGTGCAGCGCAAGATCGAGGCTCGCTCGGCAGAGGA  
CTCCTTACAGGCTTCGTCCGGACCCTGTACTTTGCTGACACCTACCTGAAGGACAGCTCCCGGCACTGCCCTC  
GCTGTGGGCTGGCACCAATGGGGGCACCATCTATGCCTTCTCCCTGCGTGTGCCCTCCCGCCGAGCGGAGAATGGA  
TGAGCCTGTGCGGGCAGAGCAGGCCAAGGAGATCCAGCTGATGCACCGGGCGCGGTGGTGGGCATCCTGGTGTCT  
CGACGGACACAGCCTACCCCTTCCCGAGCCCTCGAAGTGGCCCATGATCTGTGGAAGAGCCCTGACATGCAGGG  
AAGCCACCAGCTGCTCGTCGTATCAGAGGAGCAGTTCAAGGTGTTACGCTGCCCCAAGGTGAGTGCCAAGCTGAA  
GTTGAAGCTGACGGCCCTGGAGGGCTCAAGAGTGCGGCGGGTTCAGCGTGGCCCACTTCGGCAGTCGTGAGCCGA  
GGACTACGGGGAGCACCACTGGCAGTCCCTTACCAACCTGGGCGACATCCAGGTGGTCTCGCTGCCCTGCTCAA  
GCCCCAGGTGCGCTACAGCTGCATCCGCCGGGAGGACGTAGTGGCATCGCCTCCTGCGTCTTACCAAATATGG  
CCAAGGCTTCTACCTGATCTCACCTCGGAGTTTGAGCGCTTCTCTCTCTCCACCAAGTGGCTGGTGGAGCCCCG  
GTGTCTGGTGGATTACAGCAGAAACCAAGAACCACCGCCCTGGTAACGGTGCGGGCCCCAAGAAGGCCCCGAGCCG  
AGCCAGGAACCTCAGGGACTCAGAGTGATGGCGAGGAGAAGCAGCCCGGCCTGGTGATGGAGCGCGCTCTGCTCAG  
TGATGAGAGAGCGGCAACTGGCGTTACATCGAGCCGCGTGGGGTGCAGCCTCAGCAATGGCGGAGCAGAGTGA  
GTGGCTGAGCGTCCAGGCTGCGCGATGAGCACACACTACTACTGATGGCCTTTTGGGGGTCCCTGCCCAACCGG  
AGAGCCGGTGCACAGGGCCCCGCCAGGGGCTGGGGGATCCCGGCTTCCACAATGCAGCTGCTCTGGGCCTCGG  
GAGAGGAGAGACCCAGTCCCTTGGGTGCCCTTCCCGGCGCTCGTCTGTCTGGGTCCCTTTGGTCAATGTTGCAC  
AGTTTTTATTGCTCCCATCCCTTTTGTAGTGGGCTGGGTTTTAAGTTATAAATGTTAACTGCCCTCTGGGTGAAA  
AAGTTTTTAATAAACACCTATTACCTCTTG

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**FIGURE 4961**

MRRFLRPGHDPVRERLKRDLFQFNKTVEHGFPHQPSALGYSPSLHILAIGTRSGAIKLYGAPGVEFMGLHQENNA  
VTQIHLLPGQCQLVTLLDDNSLHLWSLKVKGASELQEDSF TLRGPPGAAPSATQITVVLPHSSCELLYLGTES  
GNV FVVQLPAFRALEDRTISSDAVLQRLPEEARHRRVFEMVEALQEHPRDPNQILIGYSRGLVVIWDLQGSRLVY  
HFLSSQQLENIWWQRDGRLLVSCHSDGSYCQWPVSSEAQQPEPLRSLVPYGFPPCKAITRILWLTTTRQGLPFTIF  
QGGMPRASYGDRHCISVIHDGQQTAFDFTSRVIGFTVLTEADPAATFDDPYALVVLAEEELVVIDLQTAGWPPVQ  
LPYLASLHCSAITCSHHVSNIPKLWERIIAAGSRQNAHFSTMEWPIDGGTSLTPAPPQRDLLLLTGHDGTVRFW  
DASGVCLRLLYKLSTVRVFLTDTPNENFSAQGEDEWPPLRKVGSFDPYSDDPRLGIQKIFLCKYSGYLAVAGTA  
GOVLVLELNDEAAEQAVEQVEADLLQDQEGYRWKGHERLAARSGPVRFEFGFQPFVLVQCQPPAVVTSALHSEW  
RLVAFGTSHGFGFLFDHQQRQVFVKCTLHPSDQLALEGPLSRVKSLLKSLRQSFRMRMRSRVSSRKRHPAGPPGE  
AQEGSAKAERPGLQNMELAPVQRKIEARSAEDSFTGFVRTLYFADTYLKDSSRHCP SLWAGTNGGTIYAFSLRVP  
PAERRMDEPVRAEQAKEIQLMHRAPVVGILVLDGHSVPLPEPLEVAHDLSKSPDMQGSQLLLVSEEQFKVFTLP  
KVS AKLKLKLTALEGSRVRRVSVAHFGSRR AEDYGEHHLAVLTNLGDIQVVSLPLLKPQVRYSCIRREDVSGIAS  
CVFTKYGGFYLI SPSEFERFSLSTKWLV EPRCLVDSAETKNHRPGNGAGPKKAPSRARNSTQSDGEEKQPGLV  
MERALLSDERAATGVHIEPPWGAASAMAEQSEWLSVQAAR

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**FIGURE 4962A**

GTGGGTTCTGCCTAAAGCTGAATTCCCAGCGCTTTGGCTTCTCTGAGTTGGGGTTGTGTATAGGGGTCTTCGAAC  
AGTTCCGGAACCAGCCAGCAGCCTTTAATTCTTGGGCGGACCACGGCCGGTTCTGATATCTTAGGGTGAAGAGAG  
GGAGGTGTCGGCCAGCCAAGAGAGAAAATTGCGGATCTTGGGCTCAGGAAGACGGGAGAAGGGGTTCCGGGTCCC  
GGGGTGGAGAACGGTTCGTCTGTTGCGCTTATAGAAGTAGGAGCAGAGGGTTCTCGTGGCAACCTTTTACTAC  
CTTTGCCTTAACCCTTGGCCACTGTTCTTGGCTAAGATGAGCAGCCACCATAACCACCTTTCTTTTGACCCTGAG  
CGGCGAGTCCGGAGTACGCTGAAGAAGGTCTTTGGGTTTGACTCTTTTAAGACGCCTTTACAGGAGAGTGCGACC  
ATGGCTGTAGTAAAAGGTAACAAGGACGTCTTTGTGTGCATGCCACAGGGGCAGGAAAATCCCTATGCTATCAG  
CTCCCTGCTCTGTTGGCCAAAGGCATCACCATTGTAGTCTCTCTCTCATTGCTTTGATTACAGGACCAAGTGGAC  
CACTTGCTAACCCTAAAGGTACGAGTAAGTTCCCTGAACTCGAAGCTCTCTGCACAGGAAAGGAAGGAGCTGCTT  
GCTGACCTGGAGCGAGAAAAGCCCCAGACCAAGATTCTGTACATCACCCCAGAGATGGCAGCTTCATCCTCCTTC  
CAGCCACCCCTGAACTCCCTGGTGTCCCGCCACCTGCTGTCTTACTTGGTGGTGGATGAAGCTCATTGTGTTTCC  
CAATGGGGGCATGACTTTTCGTCTGACTACTTGCCTCTGGGTGCCCTGCGCTCCCGCCTGGGACATGCCCTTGT  
GTGGCTCTGACCGCCACAGCCACCCACAGGTCCAAGAGGACGTGTTTGTGCTGCCCTGCACCTGAAGAAACCAGTT  
GCCATCTTCAAGACTCCCTGCTTCCGGGCCAACCTCTTCTATGATGTGCAATTCAGGAACTGATTTCTGATCCC  
TATGGGAACCTGAAGGACTTCTGCCTTAAGGCTCTTGGACAGGAGGCTGATAAAGGGTTATCTGGCTGCGGCATT  
GTGTAAGTGCAGGACTAGAGAGGCTTGTGAACAGCTGGCCATAGAGCTCAGCTGCAGGGGTGTGAACGCCAAGGCT  
TACCATGCAGGGCTGAAGGCCTCTGAAAGAAGCTGGTGCAGAAGCACTGGATGGAGGAGAAGGTCCCTGTAATT  
GTTGCAACCATTAGTTTTGGGATGGGAGTGGATAAAGCCAATGTGAGGTTGTGCGCCATTGGAATATTGCCAAG  
TCTATGGCTGGGTACTACCAGGAGTCTGGCCGGGCTGGCAGGGATGGGAAGCCTTCTGCTGCCGTCTCTATTAC  
TCCAGGAATGACCGGGACCAAGTCAGCTTCTGATCAGGAAGGAAGTAGCAAACTCCAGGAAAAGAGAGGAAAC  
AAAGCATCTGATAAAGCCACTATCATGGCCTTTGATGCCCTGGTGACCTTCTGTGAAGAACTGGGGTGCCGCCAT  
GCCGCCATTGCCAAGTACTTCGGGGATGCGCTGCCTGCCTGCGCCAAAGGCTGCGACCACTGCCAGAACCCACG  
GCCGTGCGGAGGCGGCTGGAGGCCTTGGAGCGCAGCAGCAGCTGGAGCAAGACCTGCATCGGGCCCTCCAGGGG  
AACGGCTTTGACCCCGAGCTGTATGAGGGAGGCGCAAGGGCTACGGGGACTTCAGCAGGTATGACGAAGGTTCT  
GGAGGCAGCGGGGATGAAGGCAGAGATGAGGCCACAAGCGGGAGTGGAACTCTTCTATCAGAAGCAGATGCAG  
CTGCGCAAGGGCAAAGACCCCAAGATAGAAGAATTTGTACCCCAAGATGAGAACTGTCCCTGAAAGAGGCTTCT  
AGCAGGAGGATCCCCAGGCTGACTGTGAAGGCACGGGAGCACTGCCTGCGGCTTCTGGAGGAGGCGCTGAGCAGC  
AACCGCCAGTCAACACGTACCGCTGATGAAGCTGACCTCCGGGCCAAGGCCGTGGAGCTGGAACATGAGACATTC  
CGGAACGCCAAGGTGGCCAACCTCTACAAGGCCAGCGTGTGAAGAAGGTGGCCGATATCCACAGAGCCTCCAAG  
GATGGGCAGCCCTATGACATGGGAGGCAGTGCCAAGAGCTGCAGTGCCCAAGCTGAGCCCCCGGAGCCCAATGAG  
TATGACATTCCACAGCCTCCCATGTGTACTCGCTCAAACCAAGCGGGTGGGAGCTGGTTTTCCCCAAAGGCTCC  
TGCCCGTTCCAGACGGCCACGGAAGTATGGAGACAACCTCGGATCAGGGAGCAAGCCCCCAGCCCCAGCGGGGA  
GGCGAGCACGAGCCCCGAGCCGGCCCTGTGGCTCCTGGATGAGGATGGGAGTGAGCCCCCTCCCTGGGCCCAGA  
GGGAGGTCCCTGGAGGCAGCGCTCACTATGGGGGGCCCTCCCTGAGAAGAAGGCAAAAAGTTCTCTGGGGGC  
AGCTCCCTTGCCAAGGGCCGGGCTAGCAAGAAACAGCAGCTCCTAGCCACAGCGGCCCAAGGATTCTCAGAGC  
ATCGCCCGCTTCTTCTGCCGAAGGGTGGAAAGCCAGCTCTGCTGGCATCAGCCCCAGAGGCAGAAGGTGCCTGC  
CCCTCCTGTGAGGGGGTTTACGGGACCCCCGATGGCCCCAGAGAAGTACACAGGGGAGGAAGATGGAGCCGGGGGA  
CATTGCTGCTGCCCTCCCCAGACTGAGGAGTGCTCAGGGAGAGGCCAAGCACCTGCCCCCCAGAGACCAGGGC  
ACCCCTGAAGTCCAGCCACCCCTGCAAAGGACACATGGAAGGGCAAGCGGCCTCGATCCAGCAGGAGAACCCA  
GAGAGCCAGCCTCAGAAGAGGGCCACGCCCCCTCAGCCAAGCCCTCCGTCTGATGCTGAGGTCAAGGGCAGCGTCTCG  
GCCAGCGAACAGGGCACCTTGAATCCCACGGCTCAAGACCCCTTCCAGCTCTCCGCTCCTGGCGTCTCCTTGAAG  
GAGGCTGCAATGTTGTGGTCAAGTGCCCTCACCCCTTCTACAAGGAGGGCAAGTTTGCTTCCAAGGAGTTGTTT  
AAAGGCTTTGCCCGCCACCTCTCACACTTGCTGACTCAGAAGACCTCTCTGGAAGGAGCGTGAAAGAAGAGGCC  
CAGAACCTCATCAGGCATTTCTTCCATGGCCGGGCGCGGTGCGAGAGCGAAGCTGACTGGCATGGCCTGTGTGGC  
CCCCAGAGATGACCAACTGCTGGCTGGGCAGGGCCCGCTCTCCCCAGATTCTAGCATGGGTCTATCCTGGGCC  
TCACCTGCTGATGCCAGGGCCATCGTCTTTTCTCAGTCTTCTCCTTTCCAACCATACTTGGCTTTGGGGATGAC  
CCCAGACACCCCTGAATCCAGGTGAGAGGTGAGCCACCTTTCTTTCTGCTTGAAAGCCTATAGACCCCTTCTC  
AGAGCGGTCTCATGGCTGGGTTTTCTGGGACACATGTGAGGACAGAAGGTGGAGGGTGGTGGAGCTGCTGCTG

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**FIGURE 4962B**

GAAGAAGGGGAAGGAAGAGTGGCCCCCTCCCCGAGTTCTAAGTCAGGATGAGGCCCACCTGTCCAAGGTATCGGAA  
CCTACCCAGGGGACCCTCAGATCCTCCACCCACTCCCCCATCCATTACGATGCCAGCTTCCAGCCTTGCCCAGGT  
CAGAGCTGTGGCAGAGGAGAGGCAGCCAGGCCCTGTTCTGCTCAGCTCCTGCTCAGGAAGGCCAGGCCTGACAG  
ATGTTTGGGAGAGGAATAAAGTTGTGTTGTTGTGGGGCATGCAGGCGTGACAC

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**FIGURE 4963A**

GCGCTGCCCCGCTCGTCCCCACCCCCCAACCCCCGCGCCCGCCCTCGGACAGTCCCTGCTCGCCCCGCGCGCTGC  
AGCCCCATCTCCTAGCGGCAGCCCAGGCGCGGAGGGAGCGAGTCCGCCCCGAGGTAGGTCCAGGACGGGCGCACA  
GCAGCAGCCGAGGCTGGCCGGGAGAGGGAGGAAGAGGATGGCAGGGCCACGCCCCAGCCCCATGGGCCAGGCTGCT  
CCTGGCAGCCTTGATCAGCGTCAGCCTCTCTGGGACCTTGGAACCCGCTGCAAGAAGGCCCCAGTGAAGAGCTG  
CACGGAGTGTGTCCGTGTGGATAAGGACTGCGCCTACTGCACAGACGAGATGTTTCAAGGACCGGCGCTGCAACAC  
CCAGGCGGAGCTGCTGGCCGCGGGCTGCCAGCGGGAGAGCATCGTGGTCATGGAGAGCAGCTTCCAAATCACAGA  
GGAGACCCAGATTGACACCACCTGCGGCGCAGCCAGATGTCCCCCAAGGCCTGCGGGTCCGTCTGCGGCCCGG  
TGAGGAGCGGCATTTTGTAGCTGGAGGTGTTTGTAGCCACTGGAGAGCCCCGTGGACCTGTACATCCTCATGGACTT  
CTCCAATCCATGTCCGATGATCTGGACAACCTCAAGAAGATGGGGCAGAACCTGGCTCGGGTCCGTCTGCGGCCCGG  
CACCAGCGACTACACTATTGGATTGTGGCAAGTTTGTGGACAAAGTCAGCGTCCCGCAGACGGACATGAGGCCTGA  
GAAGCTGAAGGAGCCCTGGCCCAACAGTGACCCCCCTTCTCCTTCAAGAAGCTCATCAGCCTGACAGAAGATGT  
GGATGAGTTCCGGAATAAACTGCAGGGAGAGCGGATCTCAGGCAACCTGGATGCTCCTGAGGGCGGCTTCGATGC  
CATCCTGCAGACAGCTGTGTGCACGAGGGACATTGGCTGGCGCCCGGACAGCACCCACCTGCTGGTCTTCTCCAC  
CGAGTCAGCCTTCCACTATGAGGCTGATGGCGCCAACGTGCTGGCTGGCATCATGAGCCGCAACGATGAACGGTG  
CCACCTGGACACCACGGGCACCTACCCACGTACAGGACACAGGACTACCCGTGCGTGCCACCCCTGGTGCGCCT  
GCTCGCCAAGCACAAACATCATCCCCATCTTTGCTGTACCAACTACTCCTATAGCTACTACGAGAAGCTTCACAC  
CTATTTCCCTGTCTCCTCACTGGGGGTGCTGCAGGAGGACTCGTCCAACATCGTGGAGCTGCTGGAGGAGGCCTT  
CAATCGGATCCGCTCCAACCTGGACATCCGGGCCCTAGACAGCCCCGAGGCCTTCGGACAGAGGTACCTCCAA  
GATGTTCCAGAAGACGAGGACTGGGTCTTTTACATCCGGCGGGGGGAAGTGGGTATATACCAGGTGCAGCTGCG  
GGCCCTTGAGCACGTGGATGGGACGCACGTGTGCCAGCTGCCGGAGGACCAGAAGGGCAACATCCATCTGAAACC  
TTCTTTCTCCGACGGCCTCAAGATGGACGCGGGCATCATCTGTGATGTGTGCACCTGCGAGCTGCAAAAAGAGGT  
GCGGTGAGCTCGCTGCAGCTTCAACGGAGACTTCGTGTGCGGACAGTGTGTGTGCAGCGAGGGCTGGAGTGGCCA  
GACCTGCAACTGCTCCACCGGCTCTCTGAGTGACATTAGCCCTGCCTGCGGGAGGGCGAGGACAAGCCGTGCTC  
CGGCCGTGGGGAGTGCCAGTGCGGGCACTGTGTGTGCTACGGCGAAGGCCGCTACGAGGGTCAGTTCTGCGAGTA  
TGACAACCTCCAGTGTCCCCGCACTTCCGGGTTCTGTGCAATGACCGAGGACGCTGCTCCATGGGCCAGTGTGT  
GTGTGAGCCTGGTTGGACAGGCCCAAGCTGTGACTGTCCCCTCAGCAATGCCACCTGCATCGACAGCAATGGGGG  
CATCTGTAATGGACGTGGCCACTGTGAGTGTGGCCGCTGCCACTGCCACCAGCAGTCGCTCTACACGGACACCAT  
CTGCGAGATCAACTACTCGCGATCCACCCGGGCTCTGCGAGGACCTACGCTCCTGCGTGCAGTGCCAGGCGTG  
GGGACCCGGCGAGAAGAAGGGGCGCACGTGTGAGGAATGCAACTTCAAGGTCAAGATGGTGGACGAGCTTAAGAG  
AGCCGAGGAGGTGGTGGTGCCTGCTCCTTCCGGGACGAGGATGACGACTGCACCTACAGCTACACCATGGAAGG  
TGACGGCGCCCCCTGGGCCCAACAGCACTGTCTCCTGGTGCAAGAAGAAGGACTGCCCTCCGGGCTCCTTCTGGTG  
GCTCATCCCCCTGCTCCTCCTCCTGCGGCTCCTGGCCCTGCTACTGCTGCTATGCTGGAAGTACTGTGCCTG  
CTGCAAGGCCTGCCTGGCACTTCTCCCGTGTGCAACCGAGGTACATGGTGGGCTTTAAGGAAGACCACTACAT  
GCTGCGGGGAGAACCTGATGGCCTCTGACCACTTGGACACGCCCATGCTGCGCAGCGGGAACCTCAAGGGCCGTGA  
CGTGGTCCGCTGGAAGGTACCAACAACATGCAGCGGCCTGGCTTTGCCACTCATGCCGCCAGCATCAACCCAC  
AGAGCTGGTGCCCTACGGGCTGTCTTGGCGCTGGCCCGCTTTGCACCGAGAACCTGCTGAAGCCTGACACTCG  
GGAGTGCGCCAGCTGCGCCAGGAGGTGGAGGAGAACCTGAACGAGGTCTACAGGCAGATCTCCGGTGTACACAA  
GCTCCAGCAGACCAAGTTCCGGCAGCAGCCCAATGCCGGGAAAAAGCAAGACCACACCATTTGTGGACACAGTGCT  
GATGGCGCCCCGCTCGGCCAAGCCGGCCCTGCTGAAGCTTACAGAGAAGCAGGTGGAACAGAGGGCCTTCCACGA  
CCTCAAGGTGGCCCCCGGCTACTACACCCTCACTGCAGACCAGGACGCCCGGGGCATGGTGGAGTTCCAGGAGGG  
CGTGGAGCTGGTGGACGTACGGGTGCCCTCTTTATCCGGCCTGAGGATGACGACGAGAAGCAGCTGCTGGTGG  
GGCCATCGACGTGCCCGCAGGCACTGCCACCCTCGGCCGCCGCTGGTAAACATCACCATCATCAAGGAGCAAGC  
CAGAGACGTGGTGTCTTTGAGCAGCCTGAGTTCTCGGTGAGCCGCGGGGACCAGGTGGCCCGCATCCCTGTCTAT  
CCGGCGTGTCTGGACGGCGGGAAGTCCAGGTCTCCTACCGCACACAGGATGGCACCGCGCAGGGCAACCGGGA  
CTACATCCCCGTGGAGGGTGTGCTGTTTCCAGCCTGGGGAGGCCTGGAAAGAGCTGCAGGTGAAGCTCCTGGA  
GCTGCAAGAAGTTGACTCCCTCCTGCGGGGCCGCCAGGTCCGCCGTTTCCACGTCCAGCTCAGCAACCCTAAGTT  
TGGGGCCCCACCTGGGCCAGCCCCACTCCACCACCATCATCATCAGGGACCCAGATGAACTGGACCGGAGCTTCAC  
GAGTCAGATGTTGTATCACAGCCACCCCTCACGGCGACCTGGGCGCCCCGAGAACCCCAATGCTAAGGCCG

**FIGURE 4963B**

[illegible]

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**FIGURE 4964**

MAGPRPSPWARLLLAALISVSLSGTLANRCKKAPVKSCTECVRVDKDCAYCTDEMFRDRRCNTQAEELLAAGCQRE  
SIVVMESSFQITEETQIDTTLRRSQMSPQGLRVLRPGEERHFELEVFEPLSPVDLYILMDFSNSMSDDLDNLK  
KMGQNLARVLSQLTSDYTIGFGKFVDKVSVPQTDMRPEKLKEPWPNSDPPFSFKNVISLTEDVDEFRNKLQGERI  
SGNLDAPEGGFDAILQTAVCTRDIGWRPDSTHLLVFSTESAFHYEADGANVLGIMSRNDERCHLDTTGTYTQYR  
TQDYPSVPTLVRLAKHNIIPFAVTNYSYSYIEKLHTYFPVSSLGVLQEDSSNIVELLEAFNRIRSNLDIRAL  
DSPRGLRTEVTSKMFQKTRTGSFHIRRGEVGIYQVQLRALEHVDGTHVCQLPEDQKGNHKLKPSFSDGLKMDAGI  
ICDVCTCELQKEVRSARCSFNGDFVCGQCVCSEGWGQTCNCSTGSLSDIQPCLREGEDKPCSGRGECQCGHCVC  
YGEGRYEGQFCEYDNFQCPRTSGFLCNDGRGRCMGGQCVCEPGWTGPSCDCPLSNATCIDSNGGICNGRGHCCEGR  
CHCHQQSLYTDTTICEINYSAIHPLCEDLRSCVQCQAWGTGEKKGRTCEEENFKVKMVDLKRAREEVVRCSEFRD  
EDDDCTYSYTMEGDGAPGNSTVLVHKKKDCPPGSFWWLIPLLLLLLLPLALLLLLCWKYCACCKACLALLPCCN  
RGHVMGFKEDHYMLRENLMASDHLDTPMLRSGNLKGRDVVRWKVTNNMQRPGFATHAASINPTLVYPYGLSLRLA  
RLCTENLLKPDTRCAQLRQEVEENLNEVYRQISGVHKLQQTFRQOPNAGKKQDHTIVDTVLMAPRSAPKALLK  
LTEKQVEQRAFHDLDKVAPGYTTLTADQDARGMVEFQEGVELVDVRVPLFIRPEDDDEKQLLVEAIDVPAGTATLG  
RRLVNITIIKEQARDVVSFEQPEFSVSRGDQVARIPVIRRVLDGGKSQVSRYRTQDGTAGQNRDYIPVEGELLFQP  
GEAWKELQVKLLELQEVDSLLRGRQVRRFHVQLSNPKFGAHLGQPHSTTIIIRDPELDRSFTSQMLSSQPPPHG  
DLGAPQNPNAKAAGSRKIHFNWLPPSGKPMGYRVKYWIQGDSESEAHLLDSKVPVELTNLYPYCDYEMKVCAYG  
AQGEGPYSSLVSCRTHQEVPSSEPGRLAFFNVVSSTVTQLSWAEPATNGEITAYEVCYGLVNDNRPIGPMKKVLV  
DNPKNRMLLIENLRESQPYRYTVKARNGAGWGPAREAIIINLATQPKRPMSEIIPDIPVDAQSGEDYDSFLMYS  
DDVLRSPSGSQRPVSDDTGCGWKFEPLLGEELDRLRRVTWRLPPELIPRLSASSGRSSDAEAPTAPRTTAARAGR  
AAAVPRSATPGPPGEHLVNGRMDFAFPGSTNSLHRMTTTSAAAYGTHLSPHVPHRVLSTSSSTLTRDYNLSLRSEH  
SHSTTLPRDYSTLTSVSSHDSRLTAGVPDTPTRLVFSALGPTSLRVSWQEPRCERPLQGYSEYQLLNGGELHRL  
NIPNPAQTSVVVEDLLPNHSYVFRVRAQSQEGWGREREGVITIESSQVHPQSPLCPLPGSAFTLSTPSAPGPLVFT  
ALSPDSLQLSWERPRRPNGDIVGYLVTCEMAQGGGPATAFRVDGDSPESTRITVPLSENVPYKFKVQARTTEGFG  
PEREGIIITIESQDGGFFPQLGSRAGLFQHPLOQSEYSSITTTHTSATEPFLVDGLTLGAQHLEAGGSLTRHVTQEF  
VSRTLTTSGLSTHMDQQFFQT

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**FIGURE 4965A**

CAAGGGGCCAGGACCCTGAGTTTTATTGGGCCTTGACTAATGTGCCTCCTCATCTGTGTCTCACCTCATTGTG  
GACTTAGGTTTTAGGTATCTCAGAGGCAGACCCACAGGCTCTGCTCCAGGCCATGAAGGACCTGGACGGCATGGA  
TGCTGATATCTTAGGTCTGAAGAAATCTAATTACAGCCCCTAGCAAAAAGCTGCAAAGGACCCTGGGAAAGGAGA  
GCTGCCCCAACCAACCCCAAGCCTGCAGGGGGTGCCATTCCCACCAAGAAGTCACTCCGTCTCCAGCAGCTCTGG  
GCATCAGAACAGGAGGTTTTCTCTGAAGACTTGGAAGACCCATTGAGAGGACTTCTCTCTATGATGAAGGAGG  
AATCACCAGCAGCCGCTGTGACACAGAGTAAAACAGCTTCTGACAAGAGCCCCAGCACAGTGAGAGATCAAGG  
TCCCTCTATTCTCTAACTCCTGGGGACACCCCATCCGAAAAAAGAAGAATTGTTGTTTGATGATGGGGATGA  
CATCATGGCCACCTTGGGGTTTGAGACAGCCCCAAAGCAGAGAAGAGGCAGATAGGAGACCAGGAAGGGCCTCG  
CCCTGCTCGCTCCACGCTGGATGAGCTGCTGGGTGAGGCATGGCCACCAAACTCCTGGCCCGCCGGGCACCGG  
GGAGCACAGGGAGTTCAAGCTAGACAAGAAGTACCAGAGGCCACAGGACAGTGAAGATATGTGGGGTGACGAGGA  
CTTCACCTTTGGAGCCTATCAGCCCACTGTGGTCTCCTCTGAGGGCCGGCAGTCCC GCCGGCAGTCTGTCTAGTAG  
GTTCTTCGACAGCAGTGGCGCAGACCCCAAGGGAGAACCAGGCTCCAAACAGAGCCCTCCATGGCTTCCAGCCC  
CATCCAGCCCAGGAAGGGAGGAGCTGACTGGTTGGGCCTCAAGGACGAGGACTTGAGCCTGTTCCCTGCCTCACC  
CACCAGAGAGGCCCATCGGGAAAGTTCAAGTGCCTGTACGCCCTCAGTGCCTCCTCCTGCGAGCCAGCACTCCAC  
GCCAGCTGGGCTGCCCCCTCCAGGGCAAAGCCACCAACTGAAGGTGCAGGGTCCCCTGCCAAAGCCAGCCAGGC  
TTCCAAGCTGCGAGCCTCCAAGGAGGAGAAAGAGGACTGGCTGAGCCATGCCCTGTCTCGGAAGAAGTCCCAAGG  
CCTGGCCAGAGAGCAGCATGCTGGGACCTCTGAGGGCCTGCATTTGGCGGGGACAGCGGGCCATCCCCCTTCTGG  
CAGCCTGACCTGGGCCTTCTGTACCTTACCTTGAACGCTGCCTTTCTCAGCCAACCTCTCACCAGCACACAA  
GGGCTTGAGCACGCAGCTGCTGGAGGGAGTTCTGGAACAAGTGCACGAGAAAGACCGTGTGTAGGCTGGTGTG  
TCGGGGTCCCCTGTGACTCAGAACCATGCCGCCTCAGCACTCCCTACAGGTTCCCCAAAGAGGGGAACAGCCCT  
GGAGACCTCTCAGCCACTGAGCCTGCCACGTGTTTCCCAGCACCCAGAAACCCACAGAGCCTTCCGTGCCCCGT  
CAGCCCCTGCTCCAGAGTCCCTGGCCCGGAGCCTGCTGCCGAGCACAGAATACCAGAAGCAGCTCCTGGCAGCA  
CAGGTGCAACTTCAGTGCAGCCCCGCTGAGCTCCAGGCCGAGCTGCTGCATAGCCAGGCCCGGCTGGCAGAGCTG  
GAGGCCAGGTGCGGAAGCTGGAGCTAGAACGGGCCAGCATGAGCTGCTGCTGGGGAGTCTGCAGCAGCAGCAC  
CAGGCAGACCTGGAGCTCATCGAGAGTGACACAGAAGCCGCATCAAGGTGCTAGAAACATCGTACCAGCAACGG  
GAGGAGCGGCTCCGGAGAGAGAACGAAGAGCTGTGAGCTCGGTATCTGTGCGAGTGCCAGGAGGCCGAACAGGCC  
CGTGCTGAGCTTACGGCCCAGCACCGCGCTTGGCGGCCATAGCGCAGGAGAAGGACCAGGAAATGGAGCGG  
CTCCGGGAGCTGCAGCGGGCGTCCATCCTAGACATGCGCAGAGACCACGAGGAGCAGCTGCAGCGGCTAAAGCTG  
CTGAAGGACCGAGAGGTGATGCGGCCACCAAGTGCACCTCCCACACACGGTCCCTGAATAGCATCATCCACCAG  
ATGGAGAAGTTCTCCAGCAGCCTGCACGAGTTGTCTCCCGCTGGAGGCCTCGCACCTCACCACCTCCCAGGAG  
CGGGAGCTGGGGATCCGGCAGCGTGACGAGCAGCTGCGGGGAGCGGCTGGGCCAGCAGCAGCGGGACATGGAGGA  
GGAGCGGAGCCGGCAACAGGAGGTATCGGGAAAGATGGAGGCACGGCTGAATGAGCAGAGCCGGCTGCTGGAGCA  
GGAACGCTGGCGGGTGACTGCCGAGCAGTCCAAGCGGAGTCCATGCAGCGCGCCCTAGAGGAGCAAAGGAAGGT  
CACGGCCCAGCAGATGGCCATGGAAAGGGCGGAGCTGGAACGGGCCAAGAGCGCCTTGCTGGAGGAGCAGAAGTC  
TGTCATGCTCAAGTGCGGGGAGGAGCGGCGCGCTGGCTGCCGAGTGGGCGGAGTTCTCCGCGCAGCAAAAGCT  
GAGAGCAGGCTGAGCTGAAGATCAGGGCCAGCGAGCTCCGGGCCGAGGAGAAGCAGCTGGCAGCGGAGAGAGCAG  
CCCTGGAGCAGGAGCGGCAGGAGCTGCGGCTGGAGAAGGAGAGGATCAACGCCACCGCCCTGCGTGTCAAGCTCC  
GCGCCGAGGAGGTGGAGAGCATGAGCAAGGTGGCCTCCGAGAAGTACGAGGAGGGGGAGCGGGCATTGCGCGAGG  
CCCAGCAGGTGCAGGCAGAGCAGCAGGCCCGGTTGCAGGCGGTGCAGCAACAGCAGGAGCGGCTGCGGAAGCAGG  
AGCAGCACATGCACCAGGAGCATCTGAGTCTGGCCCAGCAGAGGCTGCAACTGGACCGCGCACAGCAGGACCTGC  
CCTCTAGCCTCGTGGGTCTGTTCCCCAGGGCCCCAGGGCCCTGCAGCCTCCAGCCAGAGTGCCTCATGCCTCCTG  
CTCCCACACCCGTTGGTGCAGCCAGCCGCCAACTGGCCTGGACCCAGCCCTTGACCTCCATGCCAGGCTGG  
CACTGCTGAGGCACATGGCAGAGCAGCACCTGCGGTCTGCGGTGGCACCTGGCAGCTGGACCACAGCCAGGAGAA  
GGGTACTATTAGCCCTGCTTCAAACATGCAGAACTGAGGCCCGGGGAGATTAAATAACCTGCCTGAAATGACAC  
CGTCTGGGCCCGCCGGACACCCCCCTGGGGCCGATGCCAAACAGTGACATCGACTTGAGCAACCTGGAGCGGCT  
GGAGAAGTACCGGAGCTTCGACCGCTACCGGCGCCGAGCAGAGCAGGAGGCGCAGGCCCGCACTGGTGGCGGAC  
CTACCGAGAGTATTTGCGGGAGAAGACAGATCCCAAAGAGAAGATTGATATTGGGCTGCCTCCACCCAAAGTCTC  
CCGACCCAAACAGCTACTGGAACGGAAACAGGCCATCCAGGAGCTTCGGGCCAATGTGGAAGAGGAGCGGGCTGC



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**FIGURE 4965B**

CCGCCTCCGCACAGTGTCCCGCTGGATGCCGTGCGGGCCGAGTGGGAGAGGACCTGTGGCCCCTACCACAAGCAG  
CGTCTGGCTGAGTATTACGGCCTCTACCGAGACCTGTTCCACGGTGCCACCTTTGTGCCCCGAGTCCCCCTGCAC  
GTGGCCTACGCTGTGGGTGAGGATGACCTGATGCCTGTGTACTGTGGCAATGAGGTGACTCCAACCGAGGCTGCC  
CAAGCGCCAGAGGTGACCTATGAGGCAGAAGAGGGCTCCTTGTGGACGTTGCTACTACTAGCTTGGATGGGCAC  
CTGCTGGAGCCAGATGCTGAGTACCTCCACTGGCTGCTAACCAACATCCCGGGTAACCGGGTGGCTGAAGGACAG  
GTGACGTGTCCCTACCTCCCCCCTTCCCTGCCCAGGCTCCGGCATCCACCGTCTTGCCCTTCCTGCTCTTCAAG  
CAGGACCAGCCGATTGACTTCTCTGAGGACGCACGCCCTCACCTGCTATCAGCTGGCCCAGCGGACCTTCCGC  
ACTTTTGATTTCTACAAGAAACACCAAGAAACCATGACTCCAGCCGGCTTGTCCCTTCTTCCAGTGCCGCTGGGAT  
GACTCCGTCACCTACATCTTCCACCAGCTTCTGGACATGCGGGAGCCGGTGTTTGAGTTCGTGCGGCCGC

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**FIGURE 4966**

MAPKTKKGCKVTLPEKPVKLASHTRDTTGVSQMFPSSKARTKSLLGDDVFSTMAGLEEADAEVSGISEADPQALL  
QAMKDLGMDADILGLKKSNSAPSKKAAKDPGKGELPNHPKPAGGAIPTKKSILPSPSSSGHQNRRFSSLEDPL  
RGLLSYDEGGITKQPPVTQSKTASDKSPSTVRDQGFSIPLTPGDTPIRKKEELLFDDGDDIMATLGFGDSPKAEK  
RQIGDQEGPRPARSTLDELLGRGMATKLLARPGTGEHREFKLDKKYQRPQDSEDMWGDEDFTFGAYQPTVVSSEG  
RQSRQSVSRFFADSGADPKGEPGSKQSPPMASSPIQPRKGGADWLGLKDEDLDFPASP TREAHRESSVPVTPS  
VPPPASQHSTPAGLPPSRAKPPTGAGSPAKASQASKLRASKEEKEDWLSHALSRKKSQGLAREQHAGTSEGLHL  
AGTAGHPPSGSQPLTSTQGLEHAAAGGSSGTTARERPCVRPGVSGSPVTQNHAAASALPTGSPKRG TAPGDL SATE  
PATCFPSTQKPTEPSVPVQPLLPESLARSLLPSTEYQKQLLAAQVQLQCSPAELQAELLHSQARLAELEAQVRGS  
GAVGAGGRVATGGDTESGWKLPQEGGRAVGTGQRGVQPPPLPGCWPS CCLPGA EAGARTGPA

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**FIGURE 4967**

CCCGAGCATCCCGCGCCGACGGGGCTGTGCCGGAGCAGCTGTGCAGAGCTGCAGGCGCGCGTCA**ATG**GCTGCTTTG  
AGACAGCCCCAGGTCGCGGAGCTGCTGGCCGAGGCCCGGCGAGCCTTCCGGGAGGAGTTCGGGGCCGAGCCCGAG  
CTGGCCGTGTACGCGCCGGGCCGCGTCAACCTCATCGGGGAACACACGGACTACAACCAGGGCCTGGTGCTGCCT  
ATGGCTCTGGAGCTCATGACGGTGCTGGTGGGCAGCCCCGCAAGGATGGGCTGGTGCTCTCTCCTCACCACCTCT  
GAGGGTGCCGATGAGCCCCAGCGGCTGCAGTTTCCACTGCCCACAGCCCAGCGCTCGCTGGAGCCTGGGACTCCT  
CGGTGGGCCAACTATGTCAAGGGAGTGATTCACTACTACCCAGCTGCCCCCTCCCTGGCTTCAGTGCACTGGTG  
GTCAGCTCAGTGCCCCCTGGGGGGTGGCCTGTCCAGCTCAGCATCCTTGGAAGTGGCCACGTACACCTTCCTCCAG  
CAGCTCTGTCCAGACTCGGGCACAATAGCTGCCCCGCGCCAGGTGTGTACAGAGCCGAGCACAGCTTCGCAGGG  
ATGCCCTGTGGCATCATGGACCAGTTCATCTCACTTATGGGACAGAAAGGCCACGCGCTGCTCATTGACTGCAGG  
TCCTTGGAGACCAGCCTGGTGCCACTCTCGGACCCCCAAGCTGGCCGTGCTCATCACCAACTCTAATGTCCGCCAC  
TCCCTGGCCTCCAGCGAGTACCTGTGCGGCGGCGCCAATGTGAAGAAGTGGCCCGGGCGCTGGGCAAGGAAAGC  
CTCCGGGAGGTACAACCTGGAAGAGCTAGAGGCTGCCAGGGACCTGGTGAGCAAAGAGGGCTTCGGCGGGCCCCG  
CACGTGGTGGGGGAGATTGGCGCACGGCCAGGCAGCGGCCGCCCTGAGACGTGGCGACTACAGAGCCTTTGGC  
CGCCTCATGGTGGAGAGCCACCGCTCACTCAGAGACGACTATGAGGTGAGCTGCCCAGAGCTGGACCAGCTGGTG  
GAGGCTGCGCTTGCTGTGCCTGGGGTTTATGGCAGCCGCATGACGGCGGTGGCTTCGGTGGCTGCACGGTGACA  
CTGCTGGAGGCCTCCGCTGCTCCCCACGCCATGCGGCACATCCAGGAGCACTACGGCGGGACTGCCACCTTCTAC  
CTCTCTCAAGCAGCCGATGGAGCCAAGGTGCTGTGCTTG**TG**AGGGACCCCCAGGACAGCACACGGTGAGGGTGCG  
GGGCTGCAGGCCAGTCCCACGGCTCTGTGCCCGGTGCCATCTTCCATATCCGGGTGCTCAATAAACTTGTGCCT  
CCAATGTGGTA

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**FIGURE 4968**

MAALRQPQVAELLAEARRAFREFGAEP ELAVSAPGRVNLIGEHTDYNQGLVLPMALELMTVLVGSPRKDGLVSL  
LTTSEGADEPQRLQFPLPTAQRSLEPGTPRWANYVKGV IQYYPAAPLPGFSAVVVSSVPLGGGLSSSASLEVATY  
TFLQQLCPDSGTIAARAQVCQQA EHSFAGMP CGIMDQFISLMGQKGHALLIDCRSLETSLVPLSDPKLAVLITNS  
NVRHSLASSEYPVRRRQCEEVARALGKESLREVQLEEELEAARDIVSKEGFRRARHVVG EIRRTAQAAAALRRGDY  
RAFGRLMVESHRSRLRDDYEVSCPELDQLVEAALAVPGVYGS RMTGGGFGGCTVTLL EASAAPHAMRHIQEHYGGT  
ATFYLSQAADGAKVLCL

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**FIGURE 4969**

GGTCGTTTCGTTGGGCGGTGCTGGTTTTTCGCTCGTCGACTGCGGCTCTTCCTCGGGCAGCGGAAGCGGCGCGGCG  
GTCGGAGAAGTGGCCTAAAACCTTCGGCGTTGGGTGAAAGAAAATGGCCCCGAACCAAGCAGACTGCTCGTAAGTCC  
ACCGGTGGGAAAGCCCCCGCAAACAGCTGGCCACGAAAGCCGCCAGGAAAAGCGCTCCCTCTACCGGCGGGGTG  
AAGAAGCCTCATCGCTACAGGCCCGGGACCGTGGCGCTTCGAGAGATTTCGTCGTTATCAGAAGTCGACCGAGCTG  
CTCATCCGGAAGCTGCCCTTCCAGAGGTTGGTGAGGGAGATCGCGCAGGATTTCAAAACCGACCTGAGGTTTCAG  
AGCGCAGCCATCGGTGCGCTGCAGGAGGCTAGCGAAGCGTACCTGGTGGGTCTGTTCGAAGATACCAACCTGTGT  
GCCATCCACGCTAAGAGAGTCACCATCATGCCCAAAGACATCCAGTTGGCTCGCCGGATACGGGGGAGAGAGAGCT  
TAAGTGAAGGCAGTTTTATGGCGTTTTGTAGTAAATTCTGTAAATACTTTGGTTTAATTTGTGACTTTTTTTG  
TAAGAAATTGTTTATAATATGTTGCATTTGTACTTAAGTCATTCCATCTTCACTCAGGATGAATGCGAAAAGTG  
ACTGTTACAGACCTCAGTGATGTGAGCACTGTTGCTCAGGAGTGACAAGTTGCTAATATGCAGAAGGGATGGGT  
GATACTTCTTGCTTCTCATGATGCATGTTTCTGTATGTTAATGACTTGTTGGGTAGCTATTAAGGTACTAGAGTT  
GATAAATGTGTACAGGGTCCTTTTGCAATAAACTGGTTATGACTTGATCCAAGTGTTTAACAATTGGGGCTGTT  
AAGTCTGACCATACATCACTGTGATAGAATG1GGGCTTTTTCAAGGGTGAAGATACAAGTCTTAACCACAGTGTA  
ACTTACAGTTTCCTTTAAAAAAGTAAACCTGGCAGCTATAGAATACACTATGTGCATTTATAATAGCT  
ATTTTATATATTGTAGTATCAACATTTTTAAATTAAATGTTTTACATTACAAAGTGGTGGGGAGTCTTGTCATTA  
AGGTGTGTGTAATTTAGAGTCCAGTTGGTTTTCTTCTGACTGCACCTGTTCTCATAGTAGTAAATGCTATGCGC  
ATTTATACCTTGCATAAGTCCTCATTCTACCACATGTTAACCTCTAGCTGATAATGCAAACACTAACTGGGGGA  
TTTTATTTATAAGGGCTCTAGAAAAACGAGTTATTACACCAGCATCATCTTAACCTAACATTCTGAACCTAGTTA  
GTGCAGCTTTTTCATTGTGTGTGTGGTTGGTCTCATAACTAGGTTGAGTTTTTCTCCTCTGCTGAGGAAACAGTA  
CCGAAGTTCTTTTTCTTGTTGGCATTGTATTATAAAAACTTGGTGTGGGGGAGGAGCACAAAACCTCCAGCCCACT  
GAACCTCTGCCAATTAAGATGGTGTGGGTAGGTTACATCTGGTTACTGTCTGGGAAAATCATTTTTATAGAG  
ATGGCCTTCCAAGTGGTTTTAAATTTACTGAAGTTTTTAGGTCAATTATGTATGTTGACTAAATTTACAAATAA  
ACTTGTTTATCC

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**FIGURE 4970**

MARTKQTARKSTGGKAPRKQLATKAARKSAPSTGGVKKPHRYRPGTVALREIRRYQKSTELLIRKLPFQRLVREI  
AQDFKTDLRFSAAIGALQEASEAYLVGLFEDTNLCAIHAKRVTIMPKDIQLARRIRGERA

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**FIGURE 4971A**

GAAGAGGCAGGAAGACAAGACCATGTCGAAGGGCCCCGGGCCCCGGCGGCTCCGCAGCTTCCTCGGCGCCCCCGGC  
CGCTACCGCTCAGGTGCTGCAGGCACAGCCCCGAGAAACCGCAGCACTACACGTACCTGAAAGAATTCCGCACAGA  
GCAGTGCCCACTCTTTGTGCAACACAAATGCACGCAGCATCGGCCCTACACCTGCTTCCACTGGCACTTCGTGAA  
CCAGCGGGCGCCCGGCTCCATCCGCCGTGCGGACGGCACCTTCAATTACAGCCCTGACGTCTACTGCACCAAGTA  
CGACGAGGCTACAGGCCTCTGCCCCGAGGGCGACGAGTGCCCATTCCTGCACAGAACCACAGGGGACACTGAGCG  
CAGGTACCACCTTCGTTACTACAAAACCTGGAATCTGCATCCACGAGACAGACTCGAAAGGCAACTGCACCAAAAA  
CGGCCTGCACTGCGCTTTTGTCCACGGGCCCCATGACCTCCGCTCCCCTGTCTACGACATCAGGGAGCTTCAGGC  
CATGGAGGCCTTGAGAATGGCCAGACCACGGTAGAGGGGAGCATAGAGGGCCAGTCGGCTGGGGCTGCGAGCCA  
TGCCATGATAGAAAAGATCCTCAGCGAGGAGCCTCGGTGGCAAGAGACTGCTTATGTGCTGGGGAACTATAAGAC  
GGAGCCTTGCAAGAAGCCCCCGGGCTGTGCCGCCAAGGCTATGCCTGTCCCTACTACCACAACAGCAAGGACCG  
GCGGCGGAGCCCCCGGAAGCACAAATACAGGTGCTCTCCATGTCCAAACGTCAAGCACGGGGATGAGTGGGGAGA  
CCCTGGCAAGTGTGAGAACGGAGACGCCTGCCAGTACTGCCACACCCGCACCGAGCAGCAGTTCCACCCCGAGAT  
CTACAAGTCCACCAAGTGAACGACATGCAGCAGTCGGGCAGCTGTCCCCGAGGACCCCTTCTGCGCCTTTGCCCA  
CGTAGAACAGCCACCCCTGAGTGACGACCTGCAGCCTTCCTCAGCTGTGTCCAGCCCCACCCAGCCAGGTCTGT  
CCTGTACATGCCATCTGCCGCCGAGACTCGGTGCCTGTGAGCCCCCTCAGCCCCGATGCCCCCTGACCTCAGTGC  
CCTCCTCTGTAGAAACAGCAGCCTAGGCAGCCCCGTCTAACCTCTGCGGCTCCXCCACCGGGCTCCATCAGGAAGC  
CCCCAAACCTGGAGGGCATCGTCTTCCCTGGGGAGTCTGGCCTGGCCCCCTGGCAGCTATATAAGAAGGCTCCCGGCT  
TCGAGAGGGAAGACCAGGTGGGAGCCGAGTACCTGAAAAATTTCAAATGCCAGGCCAAATTAAAACCCCACTCAT  
TAGAGCCCAGGAGTCAAGAGCAGCCTCTGCTTCAGCCCAAACAGGACATGCTGGGCATCCTCCCCGAGGCAGCC  
CCCTGACCTCAAGCATCTCTTCTAGTATCACCTCCAGCCTGGCAGCTACCCCCCTAGCCCAGTGGGCACCCAGCA  
GCGTCCCCGGCATGAATGCAAACGCTCTGCCCTTCTACCCCACCAGCGACACGGTAGAGTCAGTCATAGAGTCTG  
CTTTGGATGACCTGGACCTGAATGAGTTTGGCGTGCCGCCCTGGAGAAGACTTTTGATAACAGCACAGTGCCCC  
ACCCAGGAAGCATCACCATCGGCGGCAGCTTGCTGCAGAGCTCTGCACCCGTGAACATCCCCGGCTCCTTGGGCA  
GCTCTGCCTCCTTCCACTCAGCATCCCCGTCCCCCTCAGCCTCTCCTCGCATTTCTTGCAGCAGCCCCAGG  
GCCACCTGAGTCAGTCGGAAAACACATTTTTTGGGAACCTCAGCATCACATGGATCTTTGGGTCTGAACGGGATGA  
ACAGCAGCATCTGGGAGCATTTTGCCTCTGGAAGCTTCTCCCCGGGCACCTCCCCCGCTTTCTATCAGGGCCAG  
GGGCTGCCGAGCTGGCCCGACTTCGGCAAGAGCTGGATGAAGCCAACAGCACCATCAAGCAGTGGGAGGAGTCTT  
GGAAGCAGGCCAAGCAGGCTTGTGATGCCTGGAAGAAAGAGGCGGAGGAGGCTGGTGAGCGGGCCAGTGCGGCGG  
GCGCCGAGTGCGAGCTGGCCCGGAGCAGCGGGATGCACTGGAGGTGCAGGTGAAGAAGCTCCAGGAGGAGCTGG  
AGCGGCTACACGCGGGGCTGAGCCCCAGGCCCTGCCCGCTTCTCCGACCTGGAGGCGCTCTCACTCTCCACCC  
TCTACTCCCTCCAGAAACAACCTGCGGGCCACCTGGAACAAGTGGACAAGGCCGTGTTCCACATGCAGTCGGTGA  
AATGCCTTAAGTGTGAGAACAGAAGCGGGCAGTGCTGCCGTGCCAACACGCTGCGCTGTGTGAGCTCTGCGCTG  
AGGGCAGCGAGTGCCCCATCTGCCAGCCTGGCCGGGCCCCACACCTCCAGTCGTGACCCTGCAGGCCTGGCCAG  
CCTGGCCCAGATCTTCTCACCTAGGACTTTTTAAAGTATATATATATATATGAATATATATATATATGTGTATGT  
ATGTATGTATATGTATATGATTATGTATATGTATACATTTCCGTATGTATGTATATGTATACATTTCCGTATGTG  
TGCAGGTATGCGTGGTGGTGTGGACAGTGTCTGTGTGTATATCTGTACATAGATATAGACACACACTTTAAAAGA  
CTTACCAAGCACTTTTTAAAAGAAGAACTATTTTGCAGTCCTCCCCCTACCCACTCCCTGCCCTTCCCACTGCAG  
AGATGACATCCCCCTCTTCTCCCACTGGCCTTTTGGCAGAGAATCTGGTCTGTCTCTTTTTTAATGTAGGAACTA  
ACTATTTTTAACTTCTTCTGGGGCCTGAGCAGGGAAGGGTGGGACTGGAAGGCCTAAGGGGAAGGGAGAAGCC  
CTCAGGGCAGGCCCTGCTCCCCCTACCTCCTTGCCAGGGCAAGGGTGGAGTGTGGAAGACGTGGGTCCCCAGAG  
CAGGCCTGGCCCCCAGCTXGXTGAGGGCCTCAGGGAGGCCCCAGGGGGAGTGCTGGGGGTCTCAGCTGGCTTAGC  
TCCTAAGTTTACCAAATGTTAATTTAGTCTTGGGGAGAACAGCAAGGGCTGGAGGCCAGTGCTGCAGGGCCAGCC  
CCACTCCTGACACCTGGGCCCTTGAAGCTCCTTGAGGGGCAAGGCCAGGAGTTCAGCCCTCAGGTTCTTGAGG  
GTCCACCTCAGTCCTTCCCCCGCCGCCCTCCCCGACTCCCCACAAGAGCCTCCCTGGCCCCAGGGCCGCTT  
ACCAGGCTGGTACTCATTCTATGACCACCGCCCCCAACCAGCTGCCCCAGCTCTCCCTGCCCCCTCCCCCTCTCT  
GGCAGCTAGCAGGGCAATTGGCGGGGAGGAGTGCGGACTGAGGACTGAGGACCAAGGGGGGCCAGGCCCTGCCCT  
CCTACCCGGAGGGGCTCCGTTTGCAATCCTTGGTGCTCTCTGAGTGCAGCTGGTGTCGCCGCTGTTCTGGGCGG  
ACGCCTGTGTGCGTGTGTGTGCCTGTCCAGTGTATATTGTGTCTTAGCTTCCATTTTAAAATTTGTTCTGTAC

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**FIGURE 4971B**

AGAGAGAGATGCAGCAGGGGCGGGAGGGCAGAGTGGGCGGAGGGGAGCAGCCGCACCCCCAGCACCGGGTGTCTG  
CGGTAGGAACAAGAGGGCTGAGAGGGTCTGGTCCTGGCCCAGGCTCCCCCTTGGGCTCAGCACGAAAGGGCTTTC  
AATGAATTAAGTGAAAACTTTTCTTTTTTACAAAAATGCAAAAATCAACAAAGCTCCAAACCTATTGAAATA  
AAATATGAACTTGC



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**FIGURE 4972**

MSKGPGPGGSAASSAPPAATAQVLQAQPEKPQHYTYLKEFRTEQCPLFVQHKCTQHRPYTCFHHWFVNQRRRSI  
RRRDGTFNYS PDVYCTKYDEATGLCPEGDECPFLHRTTGDTERRYHLRYKYGICIHETDSKGNCTKNGLHCAFA  
HGPHDLRSPVYDIRELQAMEALONGQTTVEGSIEGQSAGAASHAMIEKILSEEPRWQETAYVLGNYKTEPCKKPP  
RLCRQGYACPYHNSKDRRRSPRKHKYRSSPCPNVKHGDEWGDPGKCENGDACQYCHTRTEQQFHPEIYKSTKCN  
DMQQSGSCPRGPFCAFAHVEQPPLSDDLQPSAVSSPTQPGPVLYMP SAAGDSVPVSPSSPHAPDLSALLCRNSS  
LGSPSNLCGSXTGLHQEAPKPGGHRLPWGVWPGPWQL

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**FIGURE 4973**

TGCGTTTTGAGTCTCGGGACCCCTGTTGGAGAGACTATGCGCGCTCAACAAGAATCACTCGGAGGGCGGCGGAGTG  
ATCGTCAATAACACCGAGAGCATCCTAATGTCTATGATCACGTGGAATCACATTCAATGACATGAAGAACGTG  
CCAGAAGCCTTCAAAGGGACCAAGAAAGGCACTGTCTACCTTACCCCTTACCGGGTCATCTTTCTGTCCAAGGGC  
AAGGATGCCATGCAGTCCTTCATGATGCCATTTTATCTCATGAAAGACTGTGAGATCAAGCAGCCCGTATTTGGT  
GCAAACTACATCAAGGGAACAGTGAAGGCGGAAGCGGGAGGTGGCTGGGAAGGCTCTGCTTCTTACAAGTTGACT  
TTCACGGCAGGGGGCGCCATTGAGTTCGGACAGCGGATGCTCCAGGTGGCATCTCAAGCCTCCAGAGGTGAAGTC  
CCCAGTGGAGCCTATGGCTACTCTTACATGCCCAGCGGGGCTATGTCTATCCCCGCCAGTCGCCAATGGAATG  
TACCCCTGCCCTCCTGGCTACCCCTATCCACCGCCCCACCTGAGTTCTATCCAGGACCCCCCATGATGGACGGG  
GCCATGGGATACGTGCAGCCCCACCACCGCCCTACCTGGGCCCATGGAACCTCCGGTCAGCGGCCCCGATGTC  
CCCTCCACTCCTGCAGCCGAAGCCAAGGCCGCGAGAAGCAGCGCCAGCGCCTATTACAACCCAGGCAATCCTCAC  
AACGTCTACATGCCACGAGCCAGCGCCGCCACCTCCCTACTACCCACCGGAAGATAAGAAGACCCAGTAGGCC  
CTCCTGCCTCCCTGCCTCCCACCCTCATCTCTCTACCTACCCCTCCCATCGGGGCTGTGCTGGGGCTTGGGGAG  
GGGAGGGGGCGCCTTGTTCTCCCTCCAGGTCTGATCATAAACAATTACCAGGAACTAGCATTGTGGGACATTAGG  
GCCCCGGCCTCGGGAGAGGTGCCGCCAGCTTCCCATGCCAGCCCGGAGCCACAGTGCTGCCAGCGTACCTC  
CCTCACCGTCTGGGGCTCTTCTGGGAGCACGGAGCATCCCCTGTTCTGTTTCACTCTCAGCTTCTCCCCTCGAA  
GGGACTCTCTGGCCACCTCCTCCACCGCAGTCCAGCTCCCTCAGTCTGGCACCCACTGCTACACTCAGCCTCATG  
AGCCACTTCAGACCAGCCAGAAGGAGCTTCTGACTGGAACCAGAGAATGCATGTCTGTCCACTTGGTGGCTGCT  
GGGTGGGGCCGGGAACAAGGGCCCCTGACCCTGTGTGCTGGCCGGGACCTGCCACCAGCCCCCAGCCTGCTTCT  
TCCCCTTAAGCTTTGTGCCCCCTGGATGCGCTAACATTCACTCTTGTGTTTGTCCCTGGACTGGCCATGAAGTGAGGA  
GATGGTTATTTAAAGAGAATTCCCTATTTATTTGACAAAAAATCCAGTTAATATATTAATGTGAAATAAACCTG  
TTTGCACCTCG

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**FIGURE 4974**

MALNKNHSEGGGVIVNNTESILMSYDHVELTFNDMKNVPEAFKGTKKGTVYLTPYRVIFLSKGKDAMQSFMMPFY  
LMKDCEIKQPVFGANYIKGTVKAEEAGGGWEGSASYKLTF TAGGAIEFGQRLQVASQASRGEVPSGAYGYSYMP  
S  
GAYVYPPPVANGMYPCPPGYPPPPPEFYPGPPMMDGAMGYVQPPPPYPGPMEPPVSGPDVPSTPAAEAKAAE  
AAASAYYNPGNPHNVMPYSQPPPPPYPPEDKKTQ

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**FIGURE 4975**

GGTGCGCAAGGGCACGGACCTCGGAGCTCTCCCCGTTCCCCCGCCGGCCATGAACGCCGCTCGCACCGGCTACCG  
AGTCTTCCTCGCCAACTCCACGGCCGCTGCACGGAGCTGGCCAAGCGCATCACAGAGCGCCTTGGTGCTGAATT  
GGGGAAGTCTGTTGTATATCAAGAGACCAATGGAGAAACAAGAGTTGAAATAAAAGAATTTGTTCTGGCCAAAGA  
TATTTTCATTATACAGACAATACCCAGAGATGTGAATACAGCTGTGATGGAGTTGCTCATCATGGCTTACGCACT  
GAAGACTGCCTGTGCCAGGAACATTATTGGGGTTCATCCCTACTTCCCCTACAGCAAGCAGAGCAAGATGAGGAA  
GAGGGGTTCCATTGTGTGCAAGCTGCTAGCATCCATGCTGGCGAAAGCAGGTTTAACTCACATTATCACTATGGA  
TCTTCATCAAAAGGAAATACAAGGCTTTTTTCAGCTTTTCTGTGGACAACCTTAGAGCCTCACCTTTCTGTCTCA  
GTATATCCAGGAAGAAATTCCAAATTACAGAAATGCAGTCATTGTAGCTAAGTCTCCTGATGCTGCAAGAGGGC  
CCAGTCCTATGCGGAGAGACTGCGTCTGGGTTTGGCCGTCATTACGGGGAAGCTCAGTGCACGGAACCTGGACAT  
GGACGATGGTTCGTCCTACTCCCCGCTATGGTCAAAAATGCTACTGTGCACCCAGGCCCTGGAGTTGCCATTGATGAT  
GGCCAAAGAGAAGCCACCGATAACTGTAGTTGGAGATGTTGGAGGCCGATCGCAATCATCGTGGATGACATTAT  
TGACGATGTGGAGAGTTTTGTTGCTGCCGCGGAGATCCTGAAAGAGAGAGGGCGCCTATAAGATCTATGTTATGGC  
CACCCACGGCATCCTGTCTGCAGAGGCCCTCGCCTGATTGAGGAGTCCCTCCGTAGACGAGGTGGTGGTGACGAA  
TACTGTCCCTCATGAGGTTTCAAGCTGCAATGTCCCAAGATAAAGACTGTGGATATCAGTTTGATTCTTTCTGA  
AGCCATTTCGGAGAATCCACAATGGAGAGTCCATGGCCTACCTTTTCCGAAACATCACTGTGGATGACTAGCTTTT  
ACGAGGGTCTCGACCCTGGACCTCCTGAGGGAAACATGGAAAAAGCAGTGCCATGAGTGATACAGTGTTCCTTG  
CAAGGGAGGACTCGAAACAGCCTGGAGTTAGATATCTTCTTTTGGCCGGATTGATGGGGAGGAGGGATTAAAAGA  
GTCAGGAAGAAGACAGAGCTAATGGATAAAATATCATAACATGGCCTTACATGTCTGCTGTCATCAGCCCTGTTCC  
TTAAAAGTTCTAGCTGCTTTCTTAAAAATAATCTGAAAATCTTATTGATACTAAAGAGGAGTTAAAGGCACATAA  
AGTCTTAACTCTATAATGTTTCAATTTAGTTGTTTCAGCTCCAGGGAAATGGAGGTATTGATGTTGAACCTGGTTAG  
GGAAGCTGAGCGCCTGTGGCCCTATTACTATCCAGTTGGCCTCTCCCAAATCAACTTCAAGTCTTTTATAGAGAA  
TCGTATTTTTCTTTTCAAGAAATGCTATGCCTACAGCCATTGAAAAATGAAGCATTATGTTGTTACATCTTCCAA  
GGATGTCAGATTAGAAAATAGCATCCACCTCTGGGTATCTGAGTGGCTCTGAAGTTGCAAAATAAAATAATTTGT  
TGT

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**FIGURE 4976**

MNAARTGYRVFLANSTAACTELAKRITERLGAELGKSVVYQETNGETRVEIKEFVRGQDIFIQTIPRDVNTAVM  
ELLIMAYALKTACARNIIGVIPYFPYSKQSKMRKRSIVCKLLASMLAKAGLTHIITMDLHQKEIQGFFSFPVDN  
LRASPFLQYIQEEIPNYRNAVIVAKSPDAAKRAQSYAERLRRLGLAVIHGEAQCTELDMDDGRHSPPMVKNATVH  
PGLLEPLMMAKEKPPITVVGDVGGRIAIIVDDIIDDVESFVAAAEILKERGAYKIYVMATHGILSAEAPRLIEES  
SVDEVVVTNIVPHEVQKLQCPKIKTVDISLILSEAIRRIHNGESMAYLFRNITVDD

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**FIGURE 4977A**

CGCCTCCCCGCGCCTCGTTTCGCCGCCGCTGTTCGCCGCCGCCGCCGCCGAGACTCGCGCAGAGCAGTTATGGCGGATC  
CCGCAGCCCCCAGCCCCGCAGCTCCCGCTCCAGCCCAGGCCCCGGCTCCAGCCCCGGAGGCAGTCCCGGCCCCAG  
CCGCAGCCCCCGTCCCGGCGCCGGCGCCCGCCTCGGACTCGGCCTCCGGGGCGTCTCGGACTCCGGCCCAAG  
CCGGCTCGCAGCGCCTGCTGTTTTCTCACGACCTGGTGTGGGGCCGTTACCGTGGCTCCGTGCACTTCGGGCTGG  
TGCCTCATCCACGGCGAGGACTCGGACTCGGAGGGCGAGGAGGAGGGCCGCGGGAGCTCGGGGTGCTCCGAGG  
CCGGGGGCGCGGGCCACGAGGAGGGCCGGGGCCAGCCCCCTGCGCCGCGGCTACGTGCGCGTCCAGTGGTACCCGG  
AGGGCGTCAAGCAGCATGTGAAGGAGACCAAGCTGAAACTAGAGGACCGTCTGTGGTGGCCCGAGATGTGGTCC  
GGCACATGCGATCCACCGACAGTCAGTGTGGCACGGTGATCGACGTCAACATCGACTGTGCCGTCAAGCTCATCG  
GCACCAACTGCATCATCTATCCCGTCAACAGCAAGGACCTGCAGCACATCTGGCCCTTCATGTATGGGGACTACA  
TTGCCATGACTGCTGGCTGGGGAAGGTCTACGACTTGAAGAACCAGATCATCTGAAGCTATCCAACGGCGCCA  
GGTGTCCATGAACACGGAAGATGGCGCCAAGCTCTACGACGTCTGCCCGCACGTGAGCGACTCGGGTCTCTTCT  
TCGATGATTCTATGGCTTCTACCCAGGCCAGGTGCTCATTGGCCCTGCCAAGATCTTCTCCAGCGTCCAGTGGC  
TGTCAGGTGTCAAGCCCGTGTCTCAGCACCAAGAGCAAGTTCAGAGTGGTGGTGGAGAGGTGCAGGTTGTAGAGT  
TGAAAGTTACATGGATTACCAAGAGTTTCTGTCCAGGGGGCACGGACAGCGTCAGCCCCCACCCTCTGTATCA  
CCCAGGAAAACCTAGGCAGGGTGAAGCGTCTCGGATGCTTTGACCATGCTCAGCGGCAGCTTGGGGAGCGCTGTC  
TGATGTCTTCCCAGCCAAGGTAGAGCCAGCCAAGATTGCCTGGGAATGTCCAGAAAAAACTGCGCCCAGGGGG  
AGGGCTCTATGGCCAAGAAGGTGAAGCGCTGTTGAAGAAGCAGGTTGTGCGGATCATGTCATGCTCCCCAGACA  
CCCAGTGTTCGCGGGACCATTCCATGGAAGACCCAGACAAGAAGGGGGAATCCAAAACCAAGAGCGAAGCGGAGT  
CTGCCAGCCCTGAGGAGACGCCCCGATGCTCTGCCAGTCCAGTGGAGATGCAGGACGAGGGTGCAGAGGAGCCCCA  
CGAGGCAGGAGAGCAGCTGCCCCATTCTGTCTAAAAGAAGGCAGAGATGACAGGCTGCACTCGGCAGAGCAGGA  
CGCAGATGATGAGGCTGCTGATGACACGGACGACACCAGTTCGGTGACCTCCTCTGCCAGCTCCACCATTCTCTC  
CCAGAGCGGCAGCGGCACGAGTCGCAAAAAGAGCATCCCTTGTCCATCAAGAACTTAAAGCGCAAACACAAGAG  
GAAGAAGAATAAAATCACTCGAGACTTCAAGCCAGGGGACAGGGTGGCAGTGGAGGTGGTGACCACGATGACCTC  
AGCCGACGTGATGTGGCAGGATGGCTCCGTGGAATGCAACATCCGCTCCAACGACCTCTTCCCTGGCACCACCTG  
ACAACAACGAGTTCTGCCCTGGAGACTTCGTGGTAGATAAGCGAGTCCAGAGCTGTCCAGACCCTGCTGTCTACG  
GTGTGGTACAGTCTGGGGACCACATCGGCCGTACCTGCATGGTGAAGTGGTTCAAGCTGAGGCCGAGTGGGGACG  
ACGTGGAGCTGATTGGAGAAGAGGAAGATGTGAGTGTTCACGACATTGCTGACCACCCTGACTTTAGGTTCCGTA  
CAACTGACATCGTCATCCGCATCGGCAATACTGAGGATGGGGCTCCTCACAAGGAGGATGAGCAGCCATCGGTGG  
GCCAGGTGGCCCGTGTGGACGTCAGCAGCAAGGTGGAGGTGGTGTGGGCTGACAACCTCAAAGACCATCATCTGC  
CCCAGCACTTGTAACAATAGAGTCTGAGATTGAGGAGTCAGACTACGATTCCGGTAGAAGGCAGCACCAGCGGGC  
ATCCTCGGATGAATGGGAAGATGATAGTGACAGCTGGGAGACGGACAATGGGCTGGTGGAGGACGAGCACCCTAA  
GATAGAGGAGCCCCCATCCCACCCCTGGAGCAGCCGGTGGCCCTGAGGACAAGGGAGTGGTGTATCAGTGAAGAG  
GCAGCCACAGCCGTAXCXCTAGGGGGCTGTGGCCATGGCTGCCCCCATGGCCGGGCTGATGGAGAAGGCTGGCAA  
GGACGGGCCACCCAAGAGCTTCCGGGAGTTGAAAGAGGCCATCAAGATCCTGGAGAGCCTCAAGAACATGACTGT  
GGAGCAGCTGCTGACGGGCTCGCCCACCTCTCCGACTGTGGAGCCTGAGAAGCCAACCTCGGGAGAAGAAGTTTCT  
GGATGACATCAAGAAGCTACAGGAAAACCTCAAGAAGACCTGGACAATGTGGCCATTGTAGAGGAGGAGAAGAT  
GGAAGCAGTGCCCGACGTAGAGCGCAAGGAGGACAAGCCCCGAGGGCGAGTCACCTGTGAAGGCTGAGTGGCCAG  
CGAAACCCCGGTGCTGTGCCAGCAGTGTGGCGGCAAGCTGGCGTCACCTTACCAGCGCCAAGGGCGAGGTCTTC  
TCCGTACTGGAGTTTGCACCCTCAAATCATCTTTTAAGAAAATTGAGTTCAGCCTCCAGAAGCCAAGAAGTTC  
TTCAGCACAGTGCGGAAGGAGATGGCGCTGCTGGCTACCTCACTGCCTGAGGGCATCATGGTCAAGACTTTTGAA  
GATAGAATGGACCTCTTCTCAGCTCTCATCAAGGGCCCCACTCGAACCCCTACGAGGATGGCCCTCTACTTGTTC  
GACATCCAGCTCCCCAACATCTACCCAGCCGTGCCCCCCCCACTTCTGTACCTCTCCCAATGCAGTGGCCGCTG  
AACCCCAACCTGTATGACAATGGGAAGGTGTGTGTCAGCCTCCTGGGCACCTGGATTGGAAAGGGGACAGAGAGG  
TGGACAAGCAAGTCCAGCCTTCTCCAGGTGCTCATCTCCATCCAAGGTCTGATCCTGGTAAATGAACCATACTAC  
AACGAAGCCGGCTTCGACAGTGACCGAGGCCTGCAGGAAGGCTATGAAAACAGTCGCTGTTACAATGAGATGGCG  
CTGATCCGCGTGGTGCAGTCCATGACCCAGCTGGTGGCGCGGCCCCCGAGGACTTTGAGCAGGAGATCAGGCAA  
CACTTTAGCACTGGTGGCTGGCGGCTGGTGAACCGTATCGAGTCTGGCTGGAAACCCATGCCCTGCTGGAGAAG  
GCCAGGCACTGCCAACGGGGTGGCCAAGGCCAGCAGCTCGCCAGACGCCCCAGCTGTAGCCGAGCTGTCAGAC

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**FIGURE 4977B**

TCCGGCCAACAAGAACCTGAGGATGGAGGGCCAGCCCCAGGAGAGGCCTCCCAGGGCTCAGACTCAGAGGGCGGT  
GCCAGGGCCTGGCCTCAGCTAGCAGGGACCACACAGACCAGACTTCGGAGACCGCACCAGACGCATCGGTGCCAC  
CCAGTGTGAAACCAAAGAAGCGGAGAAAGAGCTACCGGAGCTTCTTACCTGAGAAGAGTGGCTACCCTGACATCG  
GCTTCCCCCTCTTCCCACCTTTCCAAGGGTTTCATCAAGAGCATCCGGGGTGTCTGACGCAGTTCGGGGCTGCCCT  
GCTAGAGGCAGGCATGCGGXAGTGCACAGAGGACAAGTAGCTGCCAGGCACAGAGGAAAGAGCATCACCGTGGGA  
GAGGCCAGCCGCCCGCTGCTCACTCCCCCGGAATCACCCCTCTTCCCATGCCCTCTGTCCCCACTGCAAACC  
CACTGCCCTCTTCTCCCCAAGGTGAGTTTGATGCTGAAGTGCAAGAAGTGTGTTGAGATGCTGCCGTTTTCTATTT  
TGAAGCGAGCTTTCAACAGGCGGGTCCCCTGTGGCAAAGAAAATCGGAACCTGTTGCCGATTTTCCATTTGTCA  
CCCCAGCAGAATGTCCGGCACTTGCTCCCTTGCTGCCCCCTTCTCAGGTCAGAGGCGGGTGTTCAGGGCCTGCCG  
CGGGGCTCTCTGGGCCGGTTCCCTGCAGACCCGCAGACGAGCACATGTGCCTTGCATGAAGTGTGGGTGCGCCA  
ACAATTCCCCTGGTCCCTTTCAACCTGTTTAGTTCAACTCAAGCCTCCCTGTGTCCCAGACCTCCTGCTGCCAC  
CACCACCCAGGTCCCTCCCTAGTCCCTCCAGCGTCAACACTATCCCTTGGGGAGTTGTAGCTGCTGTCACTGACTCC  
CGGCTATACATGGCCTGTGACCCACGTTATAGCCCTCAGGCCTGTTGAACTTGCTCTCTAAGAGAGGTGGGACC  
AGGCTAGGTTCCGGGTGACGCCCAGGAGAGGTGGTGGCCTTCACACATGCACATGGAGTTGAGGACCAGGGAGCT  
GCAGGGAAAGCAACAGCTATAGGTGCCTTGCTCTTCTGTGCGAGGCTGCTGGGGGCAAGAGCAGCTGCACAAGGC  
CAGGGCAAGTGCTAGGGCCCCCTCCCCATCACATGGTCACACTGGGACAGGCGTGACGCTCACTGAACTCCAAGC  
GAGCCAGCCCTCTCTTGGACTAGAAGGCCTACTGTCAGCCCTTCGCTTACAACTGCAGGCTCAATCCGAAGGGG  
ACGGCCGGCGGGGGCTCTCCTAGTGCCCAGAGACAGGCCAGAGGTTTACAAGTTTTCTAAGCTTTTGATAATGT  
GAAGCTCCAGGCCGAGAGGATGCTGTTGAGCACATTGCAGCTATGTAATTTTTGGTGTATGTATGTAATATTTAA  
GGTTGGAAAAAACTCAAAAGCAAAGATATTAACCTCTTATTAGAAAAAAGACAAAAAAAGCCAAAGCATGA  
TGCGTCTTGTGAGCCTTAAGTGGGCTCCACACCTGTGCTGTGCTGTGACCGCCAGCCAGCAGAGCTGCGGGAGG  
ATGGAGCCGGACCACACACCGTGGCATTGGAACCGAGTCGGTATCTTGTGTTGAGAAACACCCGGAGTACTGGT  
GGGGCTGTGCTTCCCAGTGCAATTGTACATGTGGAGATGTGAATGCCTACTGCTTACGATATCTGTATAAAGTGCT  
GTGTGATTAACTTTTTTTTACTTGC

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**FIGURE 4978**

CAGGACGCACATGCAGAACATCAAGGACATTTGGGTGAGCGTCTCCTTCGTGGTGTACCTTGTGAAGCGCCTCAA  
CGAGGGCAGCAGCGCCATGGCCAACGGCATGGAGGAGAAGGAGCCAGAAGCCCCGGAGATGTAGACGCCACCCCTG  
CCCACCCCGGGATCCTGCCCCAAGTCATTTCCGTCCCCCCCCAGGCCCTCCCACCACCCCATTTTATTTTATA  
TGATTTTCTCCATTTGTATCGTTCCCCACCCCTTCGACATGCTGCCAGGAAACAAGGGAAGGGGCCTCCCTCCG  
AGTGAGTCAGTGATGAGGCCGCGGCCTCCCCGAGGTTGTGGGGAGGCTGCACTGGAGCCACAGGCAGGGGTGAGA  
GCACCCACTGAATTGACATGACCCTCTGTCCCCAGGCCTGGCTCCCCGAGGGCTCAGAAGAGCAGCTTCGGTGTG  
CAGATCATCCGTCTGTGTGGGGTTCTCAGTGCCGGAGGCCTTGGGGTGGGGGCCAGGCCTCGCACTTGCAGAGGA  
GCCAGTGGGCTGCACGCTCCCCTCCATCCCCATCGGCCCTGTCCCCTGGAGTGTGTGAGAGCCAGGGGAGAAT  
GCAGCCCACCAGGAGCACCTGGACCCCTGCCCCGCCACATGGTGTGGCCATCACTCAGCCCCTACCCCTGCCCTG  
CTCCTAAGGGTAGAAAACCTCCAGGGTCCCCTGCCACCGACTGCCAGCCACTCCAAGCCCCCTGGCAGCTGCCCC  
TCCTGGAGCAGAAAGTGCCCTTTATCTCAGCCATCCGCAGACTGCTTGGCCAGATGCGGGGACAGGCTGGAATGAG  
GGAGGCGTCTTCATCTCCCTGCCATCCCCCTCTACGCCACCCCCGCCCCACCGGGCTGCAGGTGCTGCTGATG  
CGCTGGGATCTGATTGAGGATAAAAAGGAAGGAGAGATGACCCCTACCCCTCATCCCCAGTTTTGAAAAGGTC  
TAAGCAAGTGAGTCTGGTGGAGGAGCTGAGGGAGGGAGCCATGGAAGGTGCCAGAAGGAAGGTTGGCGGGGGCAC  
GTGTGGGCGGTGGCTTGGGCTGGTCAGAGTGGCGTGAGCTGCCCGCGCCTGCCCTGCCCAAGTGACCAGGGAAG  
TGTGTGTGTGTCCATGTGTATGCGTGTCCGTCTGTCTGTCTAGTGTCTGGGTTTGGCCCAAGACTGGGCTGTAGT  
TACATTAATGCCCAGCCAGCCACCCCTGCCACTCACCCCTTCTGGCCCCAGGCCTTGCTGACTCTCTGAGCTGGGG  
AGGTGGGAGGCCAGGCGAGCCTGACTCTGTTGATCTACCCGTGCCTGGGCCCCCTCCCCTCAGAGCCCATGGTAAC  
GAACCCCTAGAAAGGAGAGAACGGGCGTCAGGGGTGCACAGTCCACAGCTGAAGAGCAAGGTTTCGTGGCAGCAC  
GGCCCGGCCCCCTCACCCCTCTGTCCCCACGAGGGGACCCATGGGGGCTGTCTTTGCAGGGCACAGATGACCAAAGT  
CCCTTCCTGCTTCCTGTTACCTGTCTTGCTCCTGGGGAGAAAGAGGGGGCCTGATGAGACTCCACTCAGGTGCACA  
CATCACCAGGTGCATCTGCAGGCACCGGGCTGGCTGCTTGCCAGCCAGGAGAAGGTCAGCGAGAAGGAGTGTATGA  
GTGTGAGTGTGTGTGCATGGAAGTTGGGGCACTGGGCGTCTGACTCCCTCCCCACCCAAGAGAGGAAGGACCCCT  
CACCACCCCACTGGTGAGACAGTTTACTTTGCCAATTGCCATGTTTTTGCCAAAACCAAGATTTTGAAGGAAA  
TGAGTGGCCAGCGCCAGGGCCCAGGCCATGTGGCCTGCCAGCCTCAATGTCACCTGGTGGCGGGGTGGGGTGGG  
GGTGGGCAGCAGCATCCCAGCCTTGAGATGCTTCACTTTCCTTCTCTGTAACCAGACTTTGAAAAATTGTTTCGTT  
TCATCAGGCTCTGTTCCCTCAATGGCCTTTTGCTACGTGCCTCCCGAGAAATTTGTCTTTTGTATAAATGACAAA  
GTGTTGAAAATGTATTTCTGAAATAAATGTTTCAAATGCAGAAACCC



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**FIGURE 4979**

MGSFRTSSALKRSFEVEEVETPNSTPPRRVQTPLLRATVASSTQKFQDLGVKNSEPSARHVDSLSQRSPKASLRR  
VELSGPKAAEPVSRRELSIDISSKQVENAGAIGPSRFGKRAEVLGHKTPEPAPRRTTEITIVKPQESAHRMEP  
PASKVPEVPTAPATDAAPKRVEIQMPKP AEAPTAPSPAQTLNSENAPVSQLQSRLEPKPQPPVAEATPRSQEAT  
EAAPSCVGDMA DTPRDAGLKQAPASRNEKAPVDFGYVGIDSILEQMRRKAMKQGFEFNIMVVGQSGLGKSTLINT  
LFKSKISRKSVQPTSEERIPKTIEIKSITHDIEEKGV RMKLTVIDTPGFGDHINNENCWQPI MKFINDQYEKYLQ  
EEVNINRKKRIPDTRVHCCLYFIPATGHSRLPLDIEFMKRLSKVVNIVPVIKADTLTLEERVHFKQRITADLLS  
NGIDVYPQKEFDEDESEDLVNEKFREMIPFAVVGSDHEYQVNGKRILGRKTKWGTIEVENTHCEFAYLRDLLIR  
THMQNIKDITSSIHFEAYRVKRLNEGSSAMANGVEEKEPEAPEM

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**FIGURE 4980**

CAGATGTAGTTTTTCCGCACGTGCACGCCTTCCCTCCTCCCCGCCCTCAGGGTCCACGGCCACCATGGCATATT  
AGGGGCAGCAGTGCCTGCGGCAGCATTGGCCTTTGCAGCGGCGGCAGCAGCACCAGGCTCTGCAGCGGCACCCCC  
CAGCGGCTTAAGCCATGGCGCTTCCCACGGCATTTCAGCAGCAGCATTGCTGTAAACCGACAAAGACACCTTCGAAT  
TAAGCACATTACTCGATTCCAGCAAAGCACCGCAACATGACCGAAATGAGCTTCCTGAGCAACGAGGTGTTGGTG  
GGGGACTTGATGTCCCCCTTCGACCAGTCGGGTTTGGGGGCTGAAGAAAGCATAGGTCTCTTAGATGACTACGTG  
GAGGTGGCCAAGCACTTCAAACCTCATGGGTTCTCCAGCGACAAGGCTAAGGCGGGCTCCTCCGAATGGCTGACT  
GTGGATGGGTTGGTCAGTCCCTCCAACAACAGCAAGGAGGATGCCTTCTCTGGGACACATTGGATGTTGGAGAAA  
ATGGATTTGAAGGAGTTCGACTTTGGTGCCCTGTTGGGTATAGATGACCTGGAACCATGCCAGATGACCTTTTG  
ACCACGTTGGATGACACTTGTAACTCTTTTGCCCCCTAGTCCAGGAGACTAATAAGGTGCCCCCCCAGATGGTG  
AACCCAATTGGCCATCTCCCAGAAAGTTTAACAAAACCCGACCAGGTTGCCCCCTTCACCTTCTTGCAACTTCTT  
CCCCTTTCCCCAGGGGTCCAGTCTCCACTCCAGATCATTCTTTAGTTTAGAGCTGGGCAGTGAAGTGGATATC  
ACTGAAGAAGATAGGAAGCCGGACTCCACTGCTTACGTTGCCATGATCCCTCAGTGCATAAAGGAGGAAGACACC  
CCTTCAGATAATGATAGTGGCATCTGTATGAGCCAGAGTCTATCTGGGGTCTCCTCAGCATAGCCCCCTCTACC  
AGGGGCTCTCCAAATAGGAGCTCCCATCTCCAGGTGTTCTCTGTGGGTCTGCCCACCCCAAACCTTACGATCCT  
CCTGGAGAGAAGATGGTAGCAGCAAAAGTAAAGGGTGAGAACTGGATAAGAAGCTGAAAAAATGGAGCAAAAC  
AAGACAGCAGCCACTAGGTACCGCCAGAAGAAGAGGGCGGAGCAGGAGGCTCTCACTGGCGAGTGCAAAGAGCTG  
GAAAAGAAGAACGAGGCTCTAAAAGAGAGGGCAGATTCCCTGGCCAAGGAGATCCAGTACCTGAAAGATTTGATA  
GAAGAGGTCCGCAAGGCAAGGGGAAGAAAAGGTCCCCTAGTTGAGGGTAGGTCAGGAGTGTC AACGTGCTTGT  
ACATAGAGTGTCTGCTGTAGCTGTGTGTTCCAATAAATTATTTTGTAGGG

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**FIGURE 4981**

MTEMSFLSNEVLVGDLMSPFDQSGLGAEESIGLLDDYVEVAKHFKPHGFSSDKAKAGSSEWLTVDGLVSPSNNSK  
EDAFSGTHWMLEKMDLKEFDGALLGIDDLETMPDDLTTLDDTCNLFAPLVQETNKVPPQMVNPIGHLPESLTK  
PDQVAPFTFLQLLPLSPGVQSSTPDHSFSLELGSEVDITEEDRKPDESTAYVAMIPQCIKEEDTPSDNDSGICMSP  
ESYLGSPQHSPSTRGSPNRSLSPPGVLCGSAHPKPYDPPGEKMVAKVGEKLDKKLKKMEQNKTAATRYRQKKR  
AEQEALTGECKELEKKNEALKERADSLAKEIQYLDLIEEVRKARGKKRVP

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**FIGURE 4982**

CGCTAGCCTGCGGAGCCCGTCCGTGCTGTTCTGCGGCAAGGCCTTTCCAGTGTCCCCACGCGGAAGGCAACTGC  
CTGAGAGGCGCGGCGTGCACCGCCAGAGCTGAGGAAGCCGGCGCCAGTTTCGCGGGGCTCCGGGCCGCCACTCA  
GAGCTATGAGCTACGGCCGCCCCCTCCCGATGTGGAGGGTATGACCTCCCTCAAGGTGGACAACCTGACCTACC  
GCACCTCGCCCCGACACGCTGAGGCGCGTCTTCGAGAAGTACGGGCGCGTCGGCGACGTGTACATCCCGCGGGATC  
GCTACACCAAGGAGTCCCGCGGCTTCGCCTTCGTTTCGCTTTCACGACAAGCGCGACGCTGAGGACGCTATGGATG  
CCATGGACGGGGCCGTGCTGGACGGCCGCGAGCTGCGGGTGCAAATGGCGCGCTACGGCCGCCCCCGGACTCAC  
ACCACAGCCGCCGGGGACCGCCACCCCGCAGGTACGGGGGCGGTGGCTACGGACGCCGGAGCCGAGCCCTAGGC  
GGCGTCGCCGACGCCGATCCCGGAGTGGAGCCGTTCCAGGTCTCGCAGCCGATCTCGCTACAGCCGCTCGAAGT  
CTCGGTCCCGCACTCGTTCTCGATCTCGGTGACCTCCAAGTCCAGATCCGCACGAAGGTCCAAGTCCAAGTCCT  
CGTCGGTCTCCAGATCTCGTTCGCGGTCCAGGTCCCGGTCTCGGTCCAGGAGTCCTCCCCAGTGTCCAAGAGGG  
AATCCAAATCCAGGTGCGGATCGAAGAGTCCCCCAAGTCTCCTGAAGAGGAAGGAGCGGTGTCTCTTAAGAAA  
ATGATGTATCGGCAAGCAGTGTAACGGAGGACTTGGGGAAAAAGGACCACATAGTCCATCGAAGAAGAGTCCTT  
GGAACAAGCAACTGGCTATTGAAAAGGTTATTTTGTAACATTTGTCTAACTTTTTACTTGTTTAAGCTTTGCCTC  
AGTTGGCAAACCTTCATTTTATGTGCCATTTTGTGCTGTTATTCAAATTTCTTGTAATTTAGTGAGGTGAACGAC  
TTCAGATTTTCATTATTGGATTTGGATATTTGAGGTAAAATTTTCATTTTGTATATAGTGCTGACTTTTTTTGTTT  
GAAATTAACAGATTGGTAACCTAATTTGTGGCCTCCTGACTTTTAAGGAAAACGTGTGCAGCCATTACACACAG  
CCTAAAGCTGTCAAGAGATTGACTCGGCATTGCCTTCATTCTTAAAAATTAAAAACCTACAAAAGTTGGTGTA  
TTTGTATATGTTATTTACCTTCAGATCTAAATGGTAATCTGAACCCAAATTTGTATAAAGACTTTTCAGGTGAAA  
AGACTTGATTTTTTGAAGGATTGTTTATCAAAACACAATTTCTAATCTCTTCTTATGTATTTTTGTGCACTAGG  
CGCAGTTGTGTAGCAGTTGAGTAATGCTGGTTAGCTGTTAAGGTGGCGTGTGTCAGTGCAGAGTGCTTGGCTGTT  
TCCTGTTTTCTCCCGATTGCTCCTGTGTAAAGATGCCCTGTGCTGCAGAAACAAATGGCTGTCCAGTTTATTAAA  
ATGCCGTGACAACTGCACCTCCAGTCACCCGGGCCTTGCAATAAATAACGGAGCATACAGTGAGCACATCTAGCT  
GATGATAAATACACCTTTTTTTCCCTCTTCCCCCTAAAAATGGTAAATCTGATCATATCTACATGTATGAACCTA  
ACATGGAAAATGTTAAGGAAGCAAATGGTTGTAACCTTGTAAAGTACTTATAACATGGTGTATCTTTTTGCTTATG  
AATATTCTGTATTATAACCATTTGTTTCTGTAGTTTAATTAACATTTTCTTGGTGTAGCTTT

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**FIGURE 4983**

MSYGRPPPDVEGMTSLKVDNLTyrTSPDTLRRVFekYGRVGDVYIPRDRYTKESRGFAFVRFHDKRDAEDAMDAM  
DGAVLDGRELRVQMARYGRPPDSHHSRRGPPPRRYGGGGYGRRSRSPRRRRRSRSRSRSRSRSRSRSRSRYRSKSR  
SRTSRSRSTSKSRSAARRSKSKSSSVSRSRSRSRSRSRSPPPVSKRESKSRSRSKSPPKSPEEEGAVSS

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**FIGURE 4984**

CTTGACTTGGACCTTCGTGCGGATCTGGACTTGGAGGTCGACCGAGATCGAGAACGAGTGCGGGACCGAGACTT  
CGAGCGGCTGTAGCGAGATCGGCTGCGAGACCTGGAACGGCTCCGACTCCGGGATCGGCTGCGGCGACGCCGCCT  
AGGGCTGCGGGCGGGACGAGCAAGCACAGCGGGGTAAATTCCAGGCAGCGGGGCCGGCCCCGCCGCGCXCTXC  
CCGCCAGGCCGCCATTATCTCGCCGCCAGACGCCATTTCCCCAGTCGCGAGGCGGGGTCTCCGCCCGCGCCG  
CCCACACCCCGGCCACTCCCGGGTTCGAGACGGCGGAAGCTCGCGGGGTGGCCGGAGGGTTCGCGAGACGCGGCGT  
GCACCCCGCCCCXGTXCCGGGCCCGCACACGTGCTTCGCCGCGGACCTTTGTGAGGTGCCCCGGGCCTCCCG  
CGCGCCCCGCCCGCCTCCCGCGGTCCCCTCAGCCCCGTTTACCTGCGGCTCCGGCGTCCGTAGCCACCGCCCC  
GTACCTGCGGGGTGGCGGTCCCGGCGGCTGTGGTGTGAGTCCGGGGGCGGCCGTAGCGCGCCATTTGCACCCG  
CAGCTCGCGGCCGTCCAGCACGGCCCCGTCCATGGCATCCATAGCGTCTCAGCGTCGCGCTTGTCTGAAAGCG  
AACGAAGGCGAAGCCGCGGGACTCCTTGGTGTAGCGATCCCGCGGGATGTACACGTGCGCGACGCGCCCGTACTT  
CTCGAAGACGCGCCTCAGCGTGTGCGGCGAGGTGCGGTAGGTGAGGTGTCACCTTGAGGGAGGTACATACCCTC  
CACATCGGGAGGGGGCGGCCGTAGCTCATAGCTCTGAGTGGCGGCCCGAGCCCCGCGAACTGGCGCCGGCTTC  
CTCAGCTCTGGGCGGTGCGACGCCGCGCCTC1CAGGCAGTTGCCTTCCGCGTGGGGACACTGGGAAAGGCCTTGC  
CGCAGAACAGCACGGACGGGCTCCGCGAGGTAGCGCACCTGAGTAACAACCTGGGCGGGCAGCCGGCCTCTGCGCC  
CGTTTATATCGCTCCTCACAAAATGGCGCCCGCGCCACCCGAAATGAAACCTTCTGATTGGCCCCACCGCGCCCC  
GCTTCGTAACGACCCTGCCGCGCGCCCCGCCCTACCCGAAGCGCTGCGCACAGCCCGCGGGCGGGCCAAAAA  
GCGCGGAGTACGGCTGGAGGGAGGGGGAGCGGAATTAGCGGGCAGTTGGAAAGCCCGCGAAACGCTTTTTCCGC  
CTGGGAGGCCGGACGATCGCGATTGGGCAGGAGXGXAAGAGGAGGTGCTCCCCATCTGGGCCCCACCTTTTTTT  
CATGCCAATACTCCAAGTTCACGCCCTTTTTTGCTCAGCCGTCAGCCCCGTCTCCGTCTGAAGAGTGCTTCTGC  
CCTCATTGCTCTCCCTGTGACCCCGGCCCTCAGACTCCGCTGCGTCTCTCGGCCCCGTCCAGCCGTTT  
CTGACTGCTCTTCGCCGGAGTCCGCTTCCCAACCCCTTTTCGCCAGAGCCCGAGAGCTCCGTCGGCTCTGCGTCC  
TGGCGGTGGGACTCCCCGCCGAGCGCTTGCGGTGCCAGGTACCCGGGACTACGTTTCCCXAXGCGXGXGCC  
GAGCGGCCGGCGCCGCGGCTGCGGTGAGGTGACCCGCTGCGCTGGCCGAGTGAGTCAGGCTGGGAGGGCGGGG  
CGCGCGGCTGCTGCGGCTGGCACTTGGCCCTTTAATCCCCTTCGTGGGCCCCCTCAACCTGGAGCGGATAAATTC  
TTGGCGCTTCTXCCGGGGGTGTGCTCTTCCGTACTCGGATCGCTTCTTAGGAGTATCCTAACTGCCGTTGGGGA  
GAACCTTCGCCCTAAACCTGGGGTTCCGATCCAGGAACCTGGAAGTTGACAGCTTGGCTGCTGCTCCTACATCTG  
CCTTCTCCACTACCATCTCATTTCTTTCTCCAGGATTGTGAGTGGCTTCGCCCCGAGGAGAGCTGACTGCCCTG  
GGCTGCTGCTCCGGCAGAGCTGAGCCAAAATGTCCCCGGAATCTAAAAAGCTTTTCAACATCATTTTATAGGA  
GTTGCCTTTATGTTTATGTTCACTGCCTTTCAAACCTGTGG

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**FIGURE 4985**

CCGCCAGATTGGAATCGCGGGACCCGTTGGCAGAGGTGGCGGGCGGGCATGGGTGCCCCGACGTTGCCCCCTGC  
CTGGCAGCCCTTTCTCAAGGACCACCGCATCTCTACATTCAAGAACTGGCCCTTCTTGGAGGGCTGCGCCTGCAC  
CCCGGAGCGGATGGCCGAGGCTGGCTTCATCCACTGCCCCACTGAGAACGAGCCAGACTTGCCCCAGTGTTCCTT  
CTGCTTCAAGGAGCTGGAAGGCTGGGAGCCAGATGACGACCCCATAGAGGAACATAAAAAAGCATTCGTCCGTTG  
CGCTTTCCTTTCTGTCAAGAAGCAGTTTGAAGAATTAACCCTTGGTGAATTTTGAAGTGGACAGAGAAAGAGC  
CAAGAACAAAATTGCAAAGGAAACCAACAATAAGAAGAAAGAATTTGAGGAACTGCGAAGAAAGTGCGCCGTGC  
CATCGAGCAGCTGGCTGCCATGGATTGAGGGCCTCTGGCCGGAGCTGCCTGGTCCCAGAGTGGCTGCACCACTTCC  
AGGGTTTATTCCCTGGTGCCACCAGCCTTCCTGTGGGCCCTTAGCAATGTCTTAGGAAAGGAGATCAACATTTT  
CAAATTAGATGTTTCAACTGTGCTCCTGTTTTGTCTTGAAAGTGGCACCAGAGGTGCTTCTGCCTGTGCAGCGGG  
TGCTGCTGGTAACAGTGGCTGCTTCTCTCTCTCTCTCTTTTTTGGGGGCTCATTTTTGCTGTTTTGATTCCCG  
GGCTTACCAGGTGAGAAGTGAGGGAGGAAGAAGGCAGTGTCCCTTTTGCTAGAGCTGACAGCTTTGTTGCGTGG  
GCAGAGCCTTCCACAGTGAATGTGTCTGGACCTCATGTTGTTGAGGCTGTACAGTCCCTGAGTGTGGACTTGGCA  
GGTGCCTGTTGAATCTGAGCTGCAGGTTCCCTATCTGTACACCTGTGCCTCCTCAGAGGACAGTTTTTTTTGTTG  
TTGTGTTTTTTTTGTTTTTTTTTTTTTGGTAGATGCATGACTTGTGTGTGATGAGAGAATGGAGACAGAGTCCCTGG  
CTCCTCTACTGTTTAACAACATGGCTTTCCTATTTTTGTTTGAATTGTTAATTCACAGAATAGCACAAACTACAAT  
TAAACTAAGCACAAAGCCATTCTAAGTCATTGGGGAAACGGGGTGAACCTTCAGGTGGATGAGGAGACAGAATAG  
AGTGATAGGAAGCGTCTGGCAGATACTCCTTTTGCCACTGCTGTGTGATTAGACAGGCCCCAGTGAGCCGCGGGGC  
ACATGCTGGCCGCTCCTCCCTCAGAAAAAGGCAGTGGCCTAAATCCTTTTTAAATGACTTGGCTCGATGCTGTGG  
GGGACTGGCTGGGCTGCTGCAGGCCGTGTGTCTGTACGCCAACCTTCACATCTGTACGTTCTCCACACGGGGG  
AGAGACGCAGTCCGCCCAGGTCCCCGCTTTCTTTGGAGGCAGCAGCTCCCGCAGGGCTGAAGTCTGGCGTAAGAT  
GATGGATTTGATTGCCCCCTCCTCCTGTCTATAGAGCTGCAGGGTGGATTGTTACAGCTTCGCTGGAAACCTCTGG  
AGGTCATCTCGGCTGTTCTGAGAAATAAAAAGCCTGTCATTTT

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**FIGURE 4986**

MGAPTLPPAWQPFLKDHRI STFKNWPFLEGC ACTPERMAEAGFIHCPTENEPDLAQCF FCFKELEGWEPDDDPIE  
EHKKHSSGCAFLSVKKQFEELTLGEFLKLDRE RAKNKIAKETNNKKKEFEETAKKVRRAIEQLAAMD



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**FIGURE 4987**

GCGGCGGCGGCAGCGGCGGCGACGGCGACATGGAGAGCGGGGCGCTACGGCGCGGCCAAGGCGGGCGGGCTCCTTCG  
ACCTGCGGCGCTTCCTGACGCAGCCGCAGGTGGTGGCGCGCGCCGTGTGCTTGGTCTTCGCCTTGATCGTGTTCCT  
CCTGCATCTATGGTGAGGGCTACAGCAATGCCCACGAGTCTAAGCAGATGTACTGCGTGTTCAACCGCAACGAGG  
ATGCCTGCCGCTATGGCAGTGCCATCGGGGTGCTGGCCTTCCTGGCCTCGGCCTTCTTCTTGGTGGTCGACGCGT  
ATTTCCCCCAGATCAGCAACGCCACTGACCGCAAGTACCTGGTCATTGGTGACCTGCTCTTCTCAGCTCTCTGGA  
CCTTCCTGTGTTGTTGTTGTTCTGCTTCCTCACCACCAGTGGGCAGTCACCAACCCGAAGGACGTGCTGGTG  
GGGCGGACTCTGTGAGGGCAGCCATCACCTTCAGCTTCTTTTCCATCTTCTCCTGGGTAGGATGGCCAGGGGCC  
GGTTCTTGGGTCAAGGXGTGTGGAAGGGGGGGXAXCCCCCAXCCACCTGTACCCTGCTGTGCTCCCCCTGCAGG  
GTGTGCTGGCCTCCCTGGCCTACCAGCGCTACAAGGCTGGCGTGGACGACTTCATCCAGAATTACGTTGACCCCA  
CTCCGGACCCCAAXACACTGCCTACGCCTCCTACCCAGGTGCATCTGTGGACAACCTACCAACAGCCACCCTTCACC  
CAGAACGCGGAGACCACCGAGGGCTACCAGCCGCCCCCTGTGTACTGAGCGGCGGTTAGCGTGGAAGGGGGACA  
GAGAGGGCCCTCCXCTCTGCCCTGGACTTTCCCATGAGCCTCCTGGAAGTACC

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**FIGURE 4988**

CTTACTGCGGGACGGCCTTGGAGAGTACTCGGGTTCGTGAACTTCCCGGAGGCGCAATGAGCTGCATTAACTGC  
CCTACTGTGCTGCCTGGCTCCCCAGCAAGACCCGGGGGCGAGATCCAGGTGATTCTCGGGCCGATGTTCTCAGGAA  
AAAGCACAGAGTTGATGAGACGCGTCCGTCGCTTCCAGATTXGCTCAGTACAAGTGCCTGGTGATCAAGTATGCC  
AAAGACACTCGCTACAGCAGCAGXCTTCTGCACACATGACCGGAACACCATGGAGGCACTGCCCCGCTGCCTGCT  
CCGAGACGTGGCCAGGAGGCCCTGGGCGTGGCTGTCTATAGGCATCGACGAGGGGCGAGTTTTTCCCTGACATCGT  
GGAGTTCTGCGAGGCCATGGCCAACGCCGGGAAGACCGTAATTGTGGCTGCACTGGATGGGACCTTCCAGAGGAA  
GCCATTTGGGGCCATCCTGAACCTGGTGCCGCTGGCCGAGAGCGTGGTGAAGCTGACGGCGGTGTGCATGGAGTG  
CTTCCGGGAAGCCGCCTATACCAAGAGGCTCGGCACAGAGAAGGAGGTCGAGGTGATTGGGGGAGCAGACAAGTA  
CCTACTCCGTGTGTGCGCTCTGCTACTTCAAGAAGGCCTCAGGCCAGCCTGCCGGGCCGGACAACAAAGAGAACTG  
CCCAGTGCCAGGXAAAGCCAGGGGAAGCCGTGGCTGCCAGGAAGCTCTTTGCCCCACAGCAGATTCTGCAATGCA  
GCCCTGCCAACTGAGGGACCTGCGAGGGCCGCCCGCTCCCTTCTGCCACTGCCGCCTACTGGACGCTGCCCTGC  
ATGCTGCCCAGCCACTCCAGGAGGAAGTCGGGAGGCGTXGGAGGGTGACCACACCTTGGCCTTXCTGGGAACCTCT  
CCTTTGTGTGGCTGCCCCACCTGCCGCATGCTCCCTCCTCTCCTACCCACTGGTCTGCTTAAAGCTTCCCTCTCA  
GCTGCTGGGACGATCGCCCAGGCTGGAGCTGGCCCCGCTTGGTGGCCTGGGATCTGGCACACTCCCTCTCCTTGG  
GGTGAGGGACAGAGCCCCACGCTGTTGACATCAGCCTGCTTCTTCCCTCTGCGGCTTTCACTGCTGAGTTTCTG  
TTCTCCCTGGGAAGCCTGTGCCAGCACCTTTGAGCCTTGGCCCCACACTGAGGCTTAGGCCTCTCTGCCTGGGATG  
GGCTCCCACCCTCCCCTGAGGATGGCCTGGATTACGCCCTCTTGTTTCCTTTTGGGCTCAAAGCCCTTCCTACC  
TCTGGTGATGGTTTCCACAGGXAAACAGCATCTTTCACCAAGATGGGTGGCACCAACCTTGCTGGGACTTGGA  
TCCAGGGGCTTATCTCTTCAAGTGTGGAGAGGGCAGGGTCCACGCCTCTGCTGTAGCTTATGAAATTAATAAT  
T

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**FIGURE 4989**

AATCGAAAGTAGACTCTTTTCTGAAGCATTTCCTGGGATCAGCCTGACCACGCTCCATACTGGGAGAGGCTTCTG  
GGTCAAAGGACCAGTCTGCAGAGGGATCCTGTGGCTGGAAGCGAGGAGGCTCCACACGGCCGTTGCAGCTACCGC  
AGCCAGGATCTGGGCATCCAGGCACGGCCATGACCCCTCCGAGGCTCTTCTGGGTGTGGCTGCTGGTTGCAGGAA  
CCCAAGGCGTGAACGATGGTGACATGCGGCTGGCCGATGGGGGCGCCACCAACCAGGGCCGCGTGAGATCTTCT  
ACAGAGGCCAGTGGGGCACTGTGTGTGACAACCTGTGGGACCTGACTGATGCCAGCGTCGTCTGCCGGGCCCTGG  
GCTTCGAGAACGCCACCCAGGCTCTGGGCAGAGCTGCCTTCGGGCAAGGATCAGGCCCCATCATGCTGGACGAGG  
TCCAGTGCACGGGAACCGAGGCCTCACTGGCCGACTGCAAGTCCCTGGGCTGGCTGAAGAGCAACTGCAGGCACG  
AGAGAGACGCTGGTGTGGTCTGCACCAATGAAACCAGGAGCACCCACACCCTGGACCTCTCCAGGGAGCTCTCGG  
AGGCCCTTGGCCAGATCTTTGACAGCCAGCGGGGCTGCGACCTGTCCATCAGCGTGAATGTGCAGGGCGAGGACG  
CCCTGGGCTTCTGTGGCCACACGGTCATCTGACTGCCAACCTGGAGGGCCAGGCCCTGTGGAAGGAGCCGGGCA  
GCAATGTCACCATGAGTGTGGATGCTGAGTGTGTGCCATGGTCAGGGACCTTCTCAGGTACTTCTACTCCCGAA  
GGATTGACATCACCTGTCTGTCAGTCAAGTGCTTCCACAAGCTGGCCTCTGCCTATGGGGCCAGGCAGCTGCAGG  
GCTACTGCGCAAGCCTCTTTGCCATCCTCTCCCCAGGACCCCTCGTTCCAGATGCCCTGGACCTGTATGCCT  
ATGCAGTGGCCACAGGGGACGCCCTGCTGGAGAAGCTCTGCCTACAGTTCTGGCCTGGAACCTTCAGGCCTTGA  
CGCAGGCCGAGGCCTGGCCAGTGTCCCCACAGACCTGCTCCAAGTGTGCTGCCAGGAGCGACCTGGCGGTGC  
CCAGCGAGCTGGCCCTACTGAAGGCCGTGGACACCTGGAGCTGGGGGAGCGTGCCTCCCATGAGGAGGTGGAGG  
GCTTGGTGGAGAAGATCCGCTTCCCCATGATGCTCCCTGAGGAGCTCTTTGAGCTGCAGTTCAACCTGTCCCTGT  
ACTGGAGCCACGAGGCCCTGTTCCAGAAGAAGACTCTGCAGGCCCTGGAATTCCACACTGTGCCCTTCCAGTTGC  
TGGCCCGGTACAAAGGCCTGAACCTCACCGAGGATACCTACAAGCCCCGGATTTACACCTCGCCCACCTGGAGTG  
CCTTTGTGACAGACAGTTCTTGGAGTGCACGGAAGTCACAAGTGGTCTATCAGTCCAGACGGGGGCCCTTTGGTCA  
AATATTCTTCTGATTACTTCCAAGCCCCCTCTGACTACAGATACTACCCCTACCAGTCCTTCCAGACTCCACAAC  
ACCCAGCTTCTCTTCCAGGACAAGAGGGTGTCTTGGTCCCTGGTCTACCTCCCCACCATCCAGAGCTGCTGGA  
ACTACGGCTTCTCCTGCTCCTCGGACGAGCTCCCTGTCTTGGGCCTCACCAAGTCTGGCGGCTCAGATCGCACCA  
TTGCTACGAAAAACAAAGCCCTGATGCTCTGCGAAGGGCTCTTCGTGGCAGACGTCACCGATTTTCAGGGCTGGA  
AGGCTGCGATTCCAGTGCCCTGGACACCAACAGCTCGAAGAGCACCTCCTCCTTCCCCTGCCGGCAGGGCACT  
TCAACGGCTTCCGCACGGTCATCCGCCCTTCTACCTGACCAACTCCTCAGGTGTGGACTAGACGGCGTGGCCCA  
AGGGTGGTGAGAACCGGAGAACCCAGGACGCCCTCACTGCAGGCTCCCCCTCCTCGGCTTCTTCTCTCTGCAA  
TGACCTTCAACAACCGGCCACCAGATGTCGCCCTACTCACCTGAGCGCTCAGCTTCAAGAAATTACTGGAAGGCT  
TCCACTAGGGTCCACCAGGAGTTCTCCACCACCTACCAAGTTTCCAGGTGGTAAGCACCGACGCCCTCGAGG  
TTGCTCTGGGATCCCCCACAGCCCCTGGTCAGTCTGCCCTTGTCACTGGTCTGAGGTCATTAAATTACATTGA  
GGTTCCTA

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**FIGURE 4990**

MTPPRLFWVWLLVAGTQGVNDGDMRLADGGATNQGRVEIFYRGQWGTVCNLDLTDASVVCRALGFENATQALG  
RAAFGQGSGPIMLDEVQCTGTEASLADCKSLGWLKSNCRHERDAGVVCTNETRSTHTLDLSRELSEALGQIFDSQ  
RGCDLSISVNVQGEDALGFCGHTVILTANLEAQALWKEPGSNVTMSVDAECVPMVRDLLRYFYSSRRIDITLSSVK  
CFHKLASAYGARQLQGYCASLFAILLPQDPSFQMPLDLYAYAVATGDALLEKLCLQFLAWNFEALTQAEAWPSVP  
TDLLQLLLPRSDLAVPSELALLKAVDTSWGERASHEEVEGLVEKIRFPMMLPEELFELQFNLSLYWSHEALFQK  
KTLQALEFHTVPFQLLARYKGLNLTEDTYKPRIYTSPTWSAFVTDSSWSARKSQLVYQSRXGAFGQIFF

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**FIGURE 4991**

GTGCCTCCCATGAGGAGGTGGAGGGCTTGGTGGAGAAGATCCGCTTCCCATGATGCTCCCTGAGGAGCTCTTTG  
AGCTGCAGTTCAACCTGTCCCTGTACTGGAGCCACGAGGCCCTGTTCCAGAAGAAGACTCTGCAGGCCCTGGAAT  
TCCACACTGTGCCCTTCCAGTTGCTGGCCCGGTACAAAGGCCTGAACCTCACCAGGATACCTACAAGCCACGGA  
AGTCACAACCTGGTCTATCAGTCCAGACGGGGGCTTTGGTCAAATATTCTTCTGATTACTTCCAAGCCCCCTCTG  
ACTACAGATACTACCCCTACCAGTCCTTCCAGACTCCACAACACCCCAGCTTCCTCTTCCAGGACAAGAGGGTGT  
CCTGGTCCCTGGTCTACCTCCCCACCATCCAGAGCTGCTGGAACCTACGGCTTCTCCTGCTCCTCGGACGAGCTCC  
CTGTCTTGGGCCTCACCAAGTCTGGCGGCTCAGATCGCACCATTTGCCCTACGAAAACAAAGCCCTGATGCTCTGCG  
AAGGGCTCTTCGTGGCAGACGTCACCGATTTTCGAGGGCTGGAAGGCTGCGATTCCAGTGCCCTGGACACCAACA  
GCTCGAAGAGCACCTCCTCCTTCCCCTGCCCGGCAGGGCACTTCAACGGCTTCCGCACGGTCATCCGCCCCCTTCT  
ACCTGACCAACTCCTCAGGTGTGGACTAGACGGCGTGGCCCAAGGGTGGTGAGAACCGGAGAACCCCAGGACGCC  
CTCACTGCAGGCTCCCCTCCTCGGCTTCCTTCTCTGCAATGACCT

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**FIGURE 4992A**

TGCTCCCTCCAAATCCAAGTCCAGCAGTTCTCTCTTCTCCACGTCATCTCTCTTCTCAGATGAAGAGGA  
TGACAGTGACTTAGATGCTAAGAGGGGTCCCCGGGGCCGCGAGACCCACCCAGTGCCGCAGAAGAAGGCCAGAT  
CCTGGTGGCCAAACCCGAGCTGAAGGATCCCATCCGGAAGAAGCGGGGACGAAAGCCCCCTGCCCCAGAGCAAAA  
GGCAACCCGAAGACCCGTGAGCCTGGCCAAGGTGCTGAAGACCGCCGGAAGGATCTGGGGGCCCCGGCCAGCAA  
GCTGCCCCCTCCACTCAGCGCCCCCGTTGCAGGCCTGGCAGCTCTGAAGGCCACGCCAAGGAGGCCTGTGGCGG  
CCCCAGTGCCATGGCCACCCAGAGAACCCTGGCCAGCCTAATGAAGGGCATGGCCAGTAGCCCCGGCCGGGGTGG  
CATCAGCTGGCAGAGCTCCATCGTGCCTACATGAACCGGATGACCCAGAGCCAGGCCAGGCTGCCAGCAGGTT  
GGCGCTGAAGGCCAGGCCACCAACAAGTGCAGCCTCGGGCTGGACCTGAAGGTGAGGACGCAGAAAGGGGAGCT  
GGGAATGAGCCCTCCAGGAAGCAAAATCCCGAAGGCCCCAGCGGTGGGGCTGTGGAGCAGAAAGTGGGGAACAC  
AGGGGGCCCCCGCACACCCATGGTGCCAGCAGGGTGCCTGCTGGGTGCCAGGCCCCAGCCAGCACCCACCCA  
GGAGCTGAGCCTCCAGGTCTTGACTTGCCAGAGTGTCAAGAATGGCATGCCCGGGGTGGGTCTCTTGCCCGCCA  
CGCCACCGCCACCAAGGGTGTCCCGGCCACCAACCCAGCCCCCTGGGAAGGGCACTGGGAGTGGCCTCATTGGGGC  
CAGCGGGGCCACCATGCCACCGACACAAGCAAAAGTGAGAAGCTGGCTTCCAGAGCAGTGGCGCCACCCACCCC  
TGCCAGCAAGAGGGACTGTGTCAAGGGCAGTGCTACCCCCAGTGGGCAGGAGAGCCGCACAGCCCCGGAGAAGC  
CCGCAAGGGCGGCCACACTGCCAGAGATGAGCGCAGGTGAGGAGAGTAGCAGCTCGGACTCCGACCCCGACTCCGC  
CTCGCCGCCAGCACTGGACAGAACCCTCAGTGTCCGTTTCAGACCAGCCAGGACTGGAAGCCCACCCGCAGCCT  
CATCGAGCAGTATTTGTACCGACGTCAGTGCCAACCTCATCACGTCACAGTGAAGGAGTCTCCACCAGCGT  
GGGCTTCTTCAACCTGAGGCATTACTTGAAGCCCCGGCGCCACCAGCTGCGCGGTCTTACTCCCTTCCCTGCCTA  
TGGTGTGCTTGGCTAAGTGACTCCCAGCCCCAAGCCCCCTCAAGAGTCTGGGTGGGGGAGGAGGAGTGGGTGGC  
CTCCTTGATGGGCAGGCTTGGAAGGGACTTCTCCCGCACCCCACTCTGTCCCAGGACATAGGGCAGGGGGCCTCA  
CTGCCTTGTGGTCTCCACCTTGTTCCTACCTCTGCAGGCCTCTTGTCTCTCCCTCTTGCTCAGGAAACCCGG  
TGGCAGCTGTGGCTCCAGGTGACTGTCTTGAACAGAGCGGGCTTCTTCATGGCTGCGTTGTTGTCTGAGTTTGAAC  
TGCTCCTCCCTGGCCTGCGTGACTGAATCACAGCTTTGGTCCCTGTCTTGAGGGGCTGAGGTGTGAGGAGGGGA  
CTTCTGGCCACCTTGCCCTTCAGCCCTGGAGTGGGCAGAGAGTATTGTGGGGAGGCATGGCCAGTGGGACTAGTG  
TTCCCTCCATCTGGCCACAGCTTTTGGGAGATGGGGTGGGCAGGGGTGGTCTGGCTGGCATTGCTGAGCCGGC  
AGTGATGAAGTGGGGAGCTTGCCCTTGACAGGTGGGGGCTGGCTGGGGCCTTAATGTGAAAAGACAGTGGCAGGC  
AGCTGGAGTAGAGCGAGCCAGCAGCCCTAAAGGCTGCCTTCATGGCCATCTAGCCCCAGTTTCAGGGCAGCATC  
CATAGCCACAAGCCAGCGTGGGTGGGGCGGGGTGGTCCACAGCTGGGTTCACCTGAAGAGCCTCCGTGCCT  
CGGAGCAGGAGAGGCAGGCTATGGCTGCCACCTCCCTCCTGCCTGTGTCCCAGTGAGAACTGACCTGAGTCCCC  
TTCCAAACCCAGACCCACCTCCTGCCCCAGGCCCACTGAAGCATGTTCCATTTCTAAAAAGCCCAGAGTTCACTG  
TGTCCTCAAGGAAAACCCAAAGTGGAGGTGCTCAGGTCCAGGGGAGTCCAGTGGGCAGGACCCCTTGGCAGGCAAGC  
CCCTCCCTTCACTCCAGGACCTACCTTCTGCTAGTAAAGGACTGGCTTCATTCTAATTATGGCCCCACAGACTGC  
CCGGAGACCTGGAGGACAGCAGTGTGGCACTGGGTGTCCATGGGCCCGTCTGCCGGCTCTGCCTGTGCTGCA  
AGTGTGGCCGTGGGTCCAGCCAACAACCTCCCTACGTCTGTGTGGGGCCCTGCCCAAGTGGATGAGGCATTCTT  
TGAGGAGTATCATTTTCCCTGACAATCCCCATCACCTTTAGGGGTTCCCTGCTTGGCTCCTTTCCAGCTGAAAAA  
CTAGACCTGTGCCATTGGGGAAGCTGGACAAAGTCTAGGGGGCCCGCCTGGTAGAGGGTCCCGGGAAGCTGGATC  
TGTCAGCCTCGGCCCTGAGGCCCTGTAACTCAAGACTGTGAGCTGCCTCTAGGTGGTCACGTCTGGGAGCTAG  
CTTGATGGCTTCTGACCAGTATCAGGATTTCTGTCTGAGAGCAGCGTGGGCAGCAAGGCAGGGCAGCCAGAG  
GTGGCAGCGGCAGGCAATCTGGTCACTAGGTCTTTGTGATGCCAAAAATAAAGAGGGTGGGGTGGGTGCTTTCT  
GTTCCTCTGATTGGATGGAGTCCGCCAGCAGGCATGGGGCTACATTCCAGTGCCTGACTATAGGGAGGCACTCCT  
GATTCCATGGAGCAGCCCGGACTTTGAGAATGGGCTCTGGTTTGCGGGGGGCAGGCGTACCAGACTGCAAGACCC  
CCAGTACCTCACCGTGCCAAATAGGAAGAGGTGGCCTTGGTGTAGCCAAATGGATCTTTTTAAGAGTGTGCCTT  
TGGGGAGGGACCCATGTCCATGGCTTCGTTGAGGGCCATCCATATGCCAGCTGGGGGCCAGCCACAGTGGCCAT  
ATTGGCTGCAGCAGGAATGGTGCCACCTCGGCCGAATTGAAGGGCTAAGAGTCCAGATAGCTAGGCCAGAGCTG  
GAAGCAGACAGTAAGGGGAAGAGCTGCTCCACAGAAGAGGGAGAGATTCCAGCTCACTGCGCAGCCTGGGAGGA  
GGCGTGGATCCTGGCACGCTGAGCCTCAGGCACCAGCCTCCCTGTGCTCGACAGCAAAGTCTTGACTCCTTCCCTG  
CTGAGCACTGTGCTACCTTCACTGCTCCAAAGCCAGACTAACAGCTCTCCAAGCCCTTGGGGTGAAGTGGCTTCC  
AGGAGCTGTTGGAGAAATGAGGATGTCTGTCCCTGTCTGCCTGGGCAGGCCAGATTCTCCCCAGCAGCCGGGTG

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**FIGURE 4992B**

TCTCCAGACCCTGATTTCGGTGCCTTTCTGTTTACCAGCTACTTCAATCCCAAAGTTTGAATCTGCAGATACCTTA  
CTCCCAGCCACTTTGCCTTCTTACTGTGTTGTGTGTTTTTCTGGTGCTTCAAGAGCGTGTGCAGGGCAAGTGCC  
GTCAGTGGGAACTGCACCAGATGCTCAGACTTGGTTGTCTTATGTTTACCAATAAATAAAAGTAGACTTTTTCTA  
TTTTTATTTGCTGCTATTTGTGTGTGTGTTTGTGTTTGTGTAGCTAGGTATCTGCACTTCTGACGATGCATTGTT  
GCTTTTTTCCCGAAGTCCCGCAGGAACTGTGGCAATGGTGTGTGTGTGAAATGGTGTGTTAACCGCGTTTTGTTT  
GCTCCTGTATTGAATAGGAAGCAGTGGCCAGTCTGTCTTCCCTTAGAGATGTTAGCATATTTTTATATGTATATAT  
TTTGTACCAAAAAAGAGTGTTTCCTTGTTTTGGTTACACTCGAAATTCTGACCTAGCTGGAGAGGGCTCTGGGCCG  
AGAGCTTTCACCTAAGGGGAGACTTCAGGGGAGGATCAAGCTTTGAACCAAAGCCAATCACTGGCTTGATTTGTGT  
TTTTTAATTAAAAAAAATCATTCAATGTATGCCACTTCTAA

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**FIGURE 4993**

MATPENLASLMKGMASSPGRGGISWQSSIVHYMNRMTQSQAQAASRLALKAQATNKCGLGLDLKVRTQKGELGMS  
PPGSKIPKAPSGGAVEQKVGNTGGPPHTHGASRVPA GCPGPQAPPTQELSLQVLDLQSVKNGMPGVGLLARHATA  
TKGV PATNPAPGKGTG SGLIGASGATMPTDTSKSEKLASRAVAPPTPASKRDCVKGSATPSGQESRTAPGEARKA  
ATLPEMSAGEESSSSDSDPDSASPPSTGQNPSVSVQTSQDWKPTRSLIEHVFVTDVTANLITVTVKESPTSVGFF  
NLRHY



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**FIGURE 4994A**

GCGCCTGCGCGGGAGGCCGCGTCACGTGACCCACCGCGGACCCGCCCCGCGACGAGCTCCCGCCGGTACAGTGAC  
CCGCCTCTGCGCGCCCCCGGGCACGACCCCGGAGTCTCCGCGGGCGGCCAGGGCGCGCGTGC CGCGGAGGTGAGCC  
GGGCCGGGGCTGCGGGGCTTCCCTGAGCGCGGGCCGGGTGCGTGGGGCGGTGCGCTGCCCGCGCGGCCTCTCAGT  
TGGGAAAGCTGAGGTTGTGCGCCGGGGCCGCGGGTGGAGGTGCGGGGATGAGGCAGCAGGTAGGACAGTGACCTCGG  
TGACGCGAAGGACCCCGGCCACCTCTAGGTTCTCCTCGTCCGCCCCGTTGTTTCAGCGAGGGAGGCTCTGCGCGTGC  
CGCAGCTGACGGGGAAACTGAGGCACGGAGCGGGCCTGTAGGAGCTGTCCAGGCCATCTCCAACCATGGGAGTGA  
GGCACCCGCCCCTGCTCCACCGGCTCCTGGCCGTCTGCGCCCTCGTGTCTTGGCAACCGCTGCACTCCTGGGGC  
ACATCCTACTCCATGATTTTCTGCTGGTTCCCCGAGAGCTGAGTGGCTCCTCCCCAGTCTGGAGGAGACTCACC  
CAGCTCACCAGCAGGGAGCCAGCAGACCAGGGCCCCGGGATGCCAGGCACACCCCGGCCGTCCAGAGCAGTGC  
CCACACAGTGCGACGTCCCCCCCCAACAGCCGCTTCGATTGCGCCCCGTGACAAGGCCATCACCAGGAACAGTGCG  
AGGCCCCGCGGTGTGTGCTACATCCCTGCAAAGCAGGGGCTGCAGGGAGCCAGATGGGGCAGCCCTGGTGCTTCT  
TCCCCACCGCTACCCAGCTACAAGCTGGAGAACCTGAGCTCCTCTGAAATGGGCTACACGGCCACCCCTGACCC  
GTACCACCCCCACCTTCTTCCCAAGGACATCCTGACCCTGCGGCTGGACGTGATGATGGAGACTGAGAACCGCC  
TCCACTTCACGATCAAAGATCCAGCTAACAGGCGCTACGAGGTGCCCTTGGAGACCCCGCATGTCCACAGCCGGG  
CACCGTCCCCACTCTACAGCGTGGAGTTCTCCGAGGAGCCCTTCGGGGTGATCGTGCGCCGGCAGCTGGACGGCC  
GCGTGCTGCTGAACACGACGGTGGCGCCCCGTGTTCTTTGCGGACCAGTTTCTTCAGCTGTCCACCTCGCTGCCCT  
CGCAGTATATCACAGGCCTCGCCGAGCACCTCAGTCCCCTGATGCTCAGCACCAGCTGGACCAGGATCACCCTGT  
GGAACCGGGACCTTGCGCCACGCCCCGTGCGAACCTCTACGGGTCTCACCCTTTCTACCTGGCGCTGGAGGACG  
GCGGGTCGGCACACGGGGTGTTCCTGCTAAACAGCAATGCCATGGATGTGGTCTCGAGCCGAGCCCTGCCCTTA  
GCTGGAGGTGACAGGTGGGATCCTGGATGTCTACATCTTCTGGGCCCAGAGCCCAAGAGCGTGGTGCAGCAGT  
ACCTGGACGTTGTGGGATACCCGTTTCATGCCGCCATACTGGGGCCTGGGCTTCCACCTGTGCCGTGGGGCTACT  
CCTCCACCGCTATCACCCGCCAGGTGGTGGAGAACATGACCAGGGCCCACTTCCCCCTGGACGTCCAGTGGAACG  
ACCTGGACTACATGGACTCCCGGAGGGACTTCACGTTCAACAAGGATGGCTTCCGGGACTTCCCGGCCATGGTGC  
AGGAGCTGCACCAGGGCGGCCGCGCTACATGATGATCGTGGATCCTGCCATCAGCAGCTCGGGCCCTGCCGGGA  
GCTACAGGCCCTACGACGAGGGTCTGCGGAGGGGGGTTTTTCATACCAACGAGACCGGCCAGCCGTGATTGGGA  
AGGTATGGCCCCGGGTCCACTGCCTTCCCCGACTTCACCAACCCACAGCCCTGGCCTGGTGGGAGGACATGGTGG  
CTGAGTTCCATGACCAGGTGCCCTTCGACGGCATGTGGATTGACATGAACGAGCCTTCCAACCTTCATCAGGGGCT  
CTGAGGACGGCTGCCCAACAATGAGCTGGAGAACCACCTACGTGCCTGGGGTGGTGGGGGGACCCCTCCAGG  
CGGCCACCATCTGTGCCTCCAGCCACCAGTTTCTCTCCACACTACAACCTGCACAACCTCTACGGCCCTGACCG  
AAGCCATCGCCTCCACAGGGCGCTGGTGAAGGCTCGGGGGACACGCCATTTGTGATCTCCCGCTCGACCTTTG  
CTGGCCACGGCCGATACGCCGGCCACTGGACGGGGGACGTGTGGAGCTCCTGGGAGCAGCTCGCCTCCTCCGTGC  
CAGAAATCCTGCAGTTTAACTGTGCGGGGTGCCTCTGGTTCGGGGCCGACGTCTGCGGCTTCTGGGCAACACCT  
CAGAGGAGCTGTGTGCGCTGGACCCAGCTGGGGGCCCTTCTACCCCTTCATGCGGAACCAACAGCCTGTCTCA  
GTCTGCCCCAGGAGCCGTACAGCTTCAGCGAGCCGGCCAGCAGGCCATGAGGAAGGCCCTCACCCTGCGCTACG  
CACTCCTCCCCACCTCTACACACTGTTCCACCAGGCCACGTGCGGGGGAGACCGTGGCCCCGGCCCCCTCTTCC  
TGGAGTTCCCCAAGGACTCTAGCACCTGGACTGTGGACCACAGCTCCTGTGGGGGGAGGCCCTGCTCATACCC  
CAGTGCTCCAGGCCGGGAAGGCCGAAGTGACTGGCTACTTCCCCTTGGGCACATGGTACGACCTGCAGACGGTGC  
CAGTAGAGGCCCTTGGCAGCCTCCCACCCCCACCTGCAGCTCCCCGTGAGCCAGCCATCCACAGCGAGGGGCAGT  
GGGTGACGCTGCCGGCCCCCTGGACACCATCAACGTCCACCTCCGGGCTGGGTACATCATCCCCCTGCAGGGCC  
CTGGCCTCACAACCACAGAGTCCCGCCAGCAGCCCATGGCCCTGGCTGTGGCCCTGACCAAGGGTGGGGAGGCC  
GAGGGGAGCTGTTCTGGGACGATGGAGAGAGCCTGGAAGTGCTGGAGCGAGGGGCCTACACACAGGTCACTTCC  
TGGCCAGGAATAACACGATCGTGAATGAGCTGGTACGTGTGACCAGTGAGGGAGCTGGCCTGCAGCTGCAGAAGG  
TGACTGTCTTGGGCGTGGCCACGGCGCCCCAGCAGGTCCTCTCCAACGGTGTCCCTGTCTCCAACCTTCACCTACA  
GCCCCGACACCAAGGTCCTGGACATCTGTGTCTCGCTGTTGATGGGAGAGCAGTTTCTCGTCAGCTGGTGTTAGC  
CGGGCGGAGTGTGTAGTCTCTCCAGAGGGAGGCTGGTTCCCCAGGGAAGCAGAGCCTGTGTGCGGGCAGCAGCT  
GTGTGCGGGCCTGGGGGTTGCATGTGTCACTGGAGCTGGGCACTAACCATTCCAAGCCGCCGCATCGCTGTGTTT  
CCACCTCCTGGGCCGGGGCTCTGGCCCCCAACGTGTCTAGGAGAGCTTTCTCCCTAGATCGCACTGTGGGGCCGGG  
GCCCTGGAGGGCTGCTCTGTGTTAATAAGATTGTAAGGTTTGCCTCCTCACCTGTTGCCGGCATGCGGGTAGTA

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**FIGURE 4994B**

TTAGCCACCCCCCTCCATCTGTTCCCAGCACCGGAGAAGGGGGTGCTCAGGTGGAGGTGTGGGGTATGCACCTGA  
GCTCCTGCTTCGCGCCTGCTGCTCTGCCCCAACGCGACCGCTGCCCCGGCTGCCAGAGGGCTGGATGCCTGCCGG  
TCCCCGAGCAAGCCTGGGAACTCAGGAAAATTCACAGGACTTGGGAGATTCTAAATCTTAAGTGCAATTATTTTT  
AATAAAAGGGGCATTGGAATC

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**FIGURE 4995**

TCGGCAGCGGCACAGCGAGGTCGGCAGCGGCACAGCGAGGTCGGCAGCGGCACAGCGAGGTCGGCAGCGGCACAG  
CGAGGTCGGCAGCGGCAGCGAGGTCGGCAGCGGCACAGCGAGGTCGGCAGCGGCAGCGAGGTCGGCAGCGGCAGCG  
CGCTGTGCTCTTCCGCGGACTCTGAATCATGGCGACCACGGCCACGATGGCGACCTCGGGCTCGGCGCGAAAGCG  
GCTGCTCAAGAGGAAGACATGACTAAAGTGGAATTCGAGACCAGCGAGGAGGTGGATGTGACCCCCACGTTTCA  
CACCATGGGCGCTGCGGGAGGACCTGCTGCGGGGCATCTACGCTTACGGTTTTGAAAAACCATCAGCAATCCAGCA  
ACGAGCAATCAAGCAGATCATCAAAGGGAGAGATGTCATCGCACAGTCTCAGTCCGGCACAGGAAAAACAGCCAC  
CTTCAGTATCTCAGTCCCTCAGTGTGGATATTAGGTTTCGTGAAACTCAAGCTTTGATCTTGGCTCCCAAG  
AGAGTTGGCTGTGCAGATCCAGAAGGGGCTGCTTGTCTCGGTGACTACATGAATGTCCAGTGCCATGCCTGCAT  
TGGAGGCACCAATGTTGGCGAGGACATCAGGAAGCTGGATTACGGACAGCATGTTGTGCGGGGCACTCCAGGGCG  
TGTTTTTGATATGATTCGTGCGAGAAGCCTAAGGACACGTGCTATCAAAATGTTGGTTTTGGATGAAGCTGATGA  
AATGTTGAATAAAGGTTTCAAAGAGCAGATTTACGATGTATACAGGTACCTGCCTCCAGCCACACAGGTGGTTCT  
CATCAGTGCCACGCTGCCACACGAGATTCTGGAGATGACCAACAAGTTCATGACCGACCCAATCCGCATCTTGGT  
GAAACGTGATGAATTGACTCTGGAAGGCATCAAGCAATTTTTCGTGGCAGTGGAGAGGGAAGAGTGGAAATTTGA  
CACTCTGTGTGACCTCTACGACACACTGACCATCACTCAGGCGGTTCATCTTCTGCAACACCAAAAGAAAGGTGGA  
CTGGCTGACGGAGAAAAATGAGGGAAGCCAACCTTCACTGTATCCTCAATGCATGGAGACATGCCCCAGAAAGAGCG  
GGAGTCCATCATGAAGGAGTTCCGGTCGGGCGCCAGCCGAGTGCTTATTTCTACAGATGTCTGGGCCAGGGGGTT  
GGATGTCCCTCAGGTGTCCCTCATCTTAATGATCTCCCTAATAACAGAGAATTGTACATACACAGAATTGG  
GAGATCAGGTCGATACGGCCGGAAGGGTGTGGCCATTAACTTTGTAAAGAATGACGACATCCGCATCCTCAGAGA  
TATCGAGCAGTACTATTCCACTCAGATTGATGAGATGCCGATGAACGTTGCTGATCTTATCTGAAGCAGCAGATC  
AGTGGGATGAGGGAGACTGTTACCTGCTGTGTACTCCTGTTTGAAGATTTAGATCCAGATTCTACTTAATGG  
GGTTTATATGGACTTTCTTCTCATAAATGGCCTGCCGTCTCCCTTCCTTTGAAGAGGATATGGGGATTCTGCTCT  
CTTTTCTTATTTACATGTAAATAATACATTGTTCTAAGTCTTTTTCATTAAAAATTTAAACTTTTCCCAT

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**FIGURE 4996A**

GACGGGCTGGGGAGGTGGTGCCAGGCTGGTTGCTAGCTGCCGCCGCTGCTCACCCCGGCCGTCCGGCCGCTTCAT  
TGTCACCGGGCCTCGGGGCAGTGTGGGGGTGGCGGGGCGCCAGGTCGCCGACCCGAGGTTTGGGCGCGACTGGT  
TCCGCATCCCTCCCCGCCGGCCGAATCTGCAGGCCCGCGCGCCAGGCAGGCTTCGCGGCTGCGCCCCCGGCC  
GCGCAGGACCTGCCTTGTCACCAATGAAAGGCACCCGGGCCATCGGCAGCGTCCCGGAGCGCACGCCAGCAGGTG  
TGGACCTGAGTCTGACAGGTCTCCCTCCGCCTGTGTCCCGGCGTCTGGCAGTGCGCCACCACCAAGCCCATCGT  
CCGCTCTGTCTCCGTGGTCAAGGCAGCGAGCAGAAGAGGAAGGTGCTGGAGGCCACAGGGCCTGGGGGCTCCCA  
GGCCATCAACAACCTTAGGAGATCCAACAGCACCACGCAGGTGAGCCAGCCTCGGAGCGGCTCCCCAGGCCAAC  
GGAGCCCACAGACTTCTGTATGCTCTTCGAGGGCAGCCCCAGTGGGAAAAAGAGGCCTGCCAGCCTGAGCACAGC  
CCCCAGCGAGAAGGGAGCCACCTGGAACGTCTGGATGACCAGCCCCGGGGCTTCACCTTGCCATCCAATGCCCG  
GAGTTCCAGTGCCTTGACTCACCAGCGGGCCCGGAGGAAAGAATGCACCGTGGCCCTGGCCCCAACCTTAC  
TGCTAACAACAGGAGCAACAAGGGAGCAGTGGGCAACTGCGTCACCACCATGGTGCACAACCGCTACACCCCTC  
GGAGAGGGCGCCTCCGCTCAAGAGCTCCAACCAGACTGCCCCCTCCCTCAACAACATCATCAAGGCAGCCACCTG  
TGAGGGCAGTGAGAGCAGCGGCTTGGGAAGCTGCCGAAGAATGTCTCCAGTGCCACCCACTCAGCCCCGAACAA  
TACTGGGGGAGCAGCGGCTTGGCCAGGCGGAAGGAGGTGACGGAGGAGGAGGCTGAGAGGTTTATCCACCAGGT  
GAACCAGGCCACTGTACCATCCAGCGCTGGTACCGGCACCAGGTGCAGCGGCGCGGAGCAGGAGCTGCCCGCCT  
GGAGCACTTGCTTCAGGCCAAGCGGGAGGAGCAGCGGCAGCGGTGAGGCGAGGGGACCCCTCTTGACCTGCACCA  
GCAGAAAGAGGCAGCCAGGAGGAAGGCCCGGGAGGAGAAGGCACGCCAAGCCAGGCGAGCAGCCATTCAGGAGCT  
GCAACAGAAACGAGCCCTGAGAGCCCAGAAGGCGAGCACTGCCGAGCGTGGGCCACCTGAGAATCCAGGGAGAC  
CAGAGTGCCAGGAATGCGGCAGCCTGCTCAGGAGCTGTCCCCACACCAGGCGGCACTGCCCACCAGGCCCTCAA  
GGCCAACAATACTGGTGGTGGCCTCCCTGCTGCAGGCCCGGAGACCGCTGCCTGCCACCTCCGACTCATCCCC  
AGAACCACAGCAGCCTCCAGAGGACAGGACGCAGGACGTTCTTGCCAGGATGCAGCTGGGGACAACCTGGAGAT  
GATGGCCCCGAGCAGGGGGAGCGCCAAGTCCAGGGGGCCACTGGAGGAGCTGCTGCACACACTGCAGCTGCTGGA  
GAAGGAGCCGGACGTGCTGCCCGCCCCAGGACCCATCACAGGGGCAGATACGCCTGGGCCAGCGAGGTGACCAC  
GGAGGATGACGCCAGCTCTCTGACAGCTGACAACTTGAGAGAAATTTGGAAAACCTCAGTGCGTTCCCCGAACCTCC  
TGAGGATGGGACGCTGCTATCGGAGGCCAAGCTACAAAGCATCATGAGCTTCTTGACGAGATGGAGAAGTCTGG  
GCAGGACCAGCTGGACTCCAGCAGGAGGGGTGGGTGCCGAGGCGGGGCGGGGCCCTGGAGCTGGGGTCCGA  
GGTGAGCACGTCTGTGATGCGGCTGAAGCTGGAGGTGGAGGAGAAGAAGCAGGCCATGCTGCTGCTGCAGAGAGC  
GCTGGCGCAGCAGCGAGACCTCACGGCCCCGGCGGGTCAAGGAGACAGAGAAGGCGCTGAGCCGGCAGCTGCAGCG  
GCAGAGGGAGCACTACGAGGCCACCATCCAGCGGCACCTTGCCCTTATTGACCAGCTGATTGAGGACAAGAAGGT  
CCTGAGTGAAAAGTGCAGGCTGTGGTGGCCGAGCTGAAGCAGGAGGACCAGAGATGCACCGAGCGTGTGGCCCA  
GGCACAGGCGCAGCACGAGCTGGAGATTAAAAAACTCAAAGAATTAATGAGCGCCACCGAGAAAGCCCCCGGGGA  
GAAGTGGATCAGTGAGAAAACCAAGAAGATCAAGGAGGTCACTGTCCGAGGTCTGGAGCCCGAGATCCAGAAGCT  
GATTGCAAGGCACAAGCAGGAAGTGCAGGAGCTCAAGAGCCTGCACGAGGCGGAGCTGCTGCAGTCGGATGAGCG  
GGCCTGCGAGCGCTGCCTGCGCCAGGCCGAGGAGCTGCGGGAGCAGCTGGAGCGGGAGAAGGAGGCGCTGGGCCA  
GCAGGAGCGCGAACGTGCTCGGCAGCGGTTCCAGCAGCACCTGGAGCAGGAGCAGTGGGCGCTGCAGCAGCAACG  
GCAGCGGCTGTACAGTGAGGTGGCTGAGGAGAGGGAGCGGCTGGGCCAGCAGGCAGCCAGGCAGCGGGCGGAGCT  
GGAAGAGCTGAGGCAGCAGCTGGAGGAGAGCAGCTCTGCACTGACCCGAGCCCTGAGGGCTGAGTTTGAGAAGGG  
CAGGGAGGAGCAGGAGCGCCGGCACCAAGATGGAGCTGAATACCCTGAAGCAGCAGCTGGAGCTGGAGAGGCAGGC  
GTGGGAGGCCGGCCGCACCAGGAAGGAGGAGGCGTGGCTGCTGAACCGGGAACAGGAGCTGAGGGAAGAAATCCG  
GAAAGGCCGGGACAAGGAGATTGAGCTGGTCATTACCGGCTGGAGGCCGACATGGCGCTGGCCAAGGAGGAGAG  
TGAGAAGGCTGCCGAGAGCCGCATCAAGCGCTTACGGGACAAGTACGAGGCCGAGCTCTCCGAGCTGGAGCAGTC  
GGAGCGGAAGCTTCAGGAGCGGTGCTCGGAGCTGAAGGGCCAGCTTGGGGAGGCCGAGGGCGAGAATCTGCGTCT  
GCAGGGCCTTGTCGGCAGAAGGAGCGGGCGCTGGAGGATGCGCAGGCGGTGAACGAGCAGCTTTCTAGCGAGCG  
CAGCAACCTGGCCAGGTGATCCGCCAGGAGTTCGAGGACCGGCTGGCAGCCTCTGAGGAGGAGACGCGGCAGGC  
CAAGGCCGAGCTGGCCACGCTGCAGGCCCGCCAGCAGCTGGAGCTGGAGGAGGTGCACCGGAGGGTGAAGACAGC  
CCTCGCGAGGAAGGAGGAGGCGGTGAGCAGCCTCCGGACACAACATGAGGCTGCGGTGAAGCGGGCCGACCACCT  
GGAGGAGCTGCTGGAGCAGCACAGGAGGCCACGCCAAGTACCAAGTGACCAGGGATGCCGGGAACACTGTGAA  
GAACGGAAGGCAGAGGACAGAGGCTGGACGTGGGCCAGAGGCCACAGGGACGCCACCTGCCCCCACAGAGG

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**FIGURE 4996B**

CTGGTGGTTGAGATGCCCACGGCTAAGCACCTGTGGCTGCATTTTAACAGTAAAGGAGGCCGTTGTTTTTC

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**FIGURE 4997**

MKGTRAIGSVBERSPAGVDLSLTGLPPPVSRRPGSAATTKPIVRSVSVVTGSEQKRKVLEATGPGGSQAINNLRR  
SNSTTQVSQPRSGSPRPTEPTDFLMLFEGSPSGKKRPASLSTAPSEKGATWNVLDDQPRGFTLPSNARSSSALDS  
PAGPRRKECTVALAPNFTANNRSNKGAVGNCVTTMVHNRYTPSERAPPLKSSNQ TAPSLNNIIKAATCEGSESSG  
FGKLPKNVSSATHSARNNTGGSTGLPRRKEVTEEEAERFIHQVNQATVTIQRWYRHQVQRRGAGAAARLEHLLQAK  
REEQRQRS GEGTLLDLHQQKEAARRKAREEKARQARRAAIQELQQKRALRAQKASTAERGPPENPRETRVPGMRQ  
PAQELSPTPGGTAHQALKANNTGGGLPAAGPGDRCLPTSDSSPEPQOPPEDRTQDVLAQDAAGDNLEMMAPSRGS  
AKSRGPLEELLHTLQLEKEPDVLP RP RTHHRGRYAWASEVTTEDDASSLTADNLEKFGKLSAFPEPPEDGTLLS  
EAKLQSIMSFLDEMEKSGDQLDSQQEGWVPEAGPGPLELGSEVSTSVMLRKLEVEEKKQAMLLLQRALAQQORDL  
TARRVKETEKALSRQLQRQREHYEATIQRHLAFIDQLIEDKKVLSEKCEAVVAELKQEDQRCTERVAQAQAQHEL  
EIKKLKELMSATEKARREKWISEKTKKIKEVTVRGLEPEIQKLIARHKQEVRRKLSLHEAELLQSDERASQRCLR  
QAEELREQLEREKEALGQQRERARQRFQQHLEQEQWALQQQRORLYSEVAEERERLGQQAARQRAELEELRQOL  
EESSALTRALRAEFKGRREEQERRHQMELNTLKQOLELERQAWAAGRTRKEEAWLLNREQELREEIRKGRDKEI  
ELVIHRLEADMALAKEESEKAAESRIKRLRDKYEAELSELEQSERKLQERCSELKGQLGEAEGENLRLQGLVRQK  
ERALEDAQAVNEQLSSERSNLAQVIRQEFEDRLAASEEETROAKAELATLQARQQLELEEVHRRVKTALARKEEA  
VSSLRTQHEAAVKRADHLEELLEQHRRPTPSTK

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**FIGURE 4998**

CAGGTGAGGCGGAACCAACCCTCCTGGCCATGGGAGGGGGCCGTGGTGGACGAGGGCCCACAGGCGTCAAGGCCCT  
GACGGCGGCTGGGCGTGAGGCGTGCTCTTCGGCTGTTTCGTCACTACTGGCTTCTCCTACGCCCTTCCCCAAGGCC  
GTCAGTGTCTTCTTCAAGGAGCTCATAACAGGAGTTTGGGATCGGCTACAGCGACACAGCCTGGATCTCCTCCATC  
CTGCTGGCCATGCTCTACGGGACAGGTCCGCTCTGCAGTGTGTGCGTGAACCGCTTTGGCTGCCGGCCCCGTCATG  
CTTGTTGGGGGGTCTCTTTGCGTCGCTGGGCATGGTGGCTGCGTCCCTTTTGCCGGAGCATCATCCAGGTCTACCTC  
ACCACTGGGGTCAACACGGGGTTGGGTTTGGCACTCAACTTCCAGCCCTCGCTCATCATGCTGAACCGCTACTTC  
AGCAAGCGGCGCCCCATGGCCAACGGGCTGGCGGCAGCAGGTAGCCCTGTCTTCTGTGTGCCCTGAGCCCGCTG  
GGGCAGCTGCTGCAGGACCGCTACGGCTGGCGGGGCGGCTTCTCATCCTGGGCGGCCTGCTGCTCAACTGCTGC  
GTGTGTGCCGCACTCATGAGGCCCTGGTGGTCACGGCCCAGCCGGCTCGGGGCAGCCGCGACCCTCCCGGCGCC  
TGCTAGACCTGAGCGTCTTCCGGGACCGCGGCTTTGTGCTTTACGCCGTGGCCGCCTCGGTGCTGGTGGTGGGGC  
TCTTCGTCCCGCCCGTGTTCGTGGTGATGACGCCAAGGACCTGGCGTGCCCGACACCAAGGCGCCTTCTGCTCA  
CCATCCTGGGCTTCATTGACATACTTACGCCCCGCGGGCTTCGTGCGGGGCTTGGAAGGTGCGGCCCTATCCG

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**FIGURE 4999**

GCGGGCGGCGGCGCTCGGAGTCGCCGGGAGCTGCCAGGCTGCTCCGCGCGCCGCTGCGGGGGCCATGATCCGGAAC  
GGGCGCGGGGCTGCAGGCGGCGCAGAGCAGCCGGGCCCGGGGGGCGAGGCGCGCCGTGAGGGTGTGGTGCGATGGC  
TGCTATGACATGGTGCAATTACGGCCACTCCAACCAGCTGCGCCAGGCACGGGGCCATGGGTGACTACCTCATCGTA  
GGCGTGACACACCGATGAGGAGATCGCCAAGCACAAGGGGCCCCCGGTGTTCACTCAGGAGGAGAGATACAAGATG  
GTGCAGGCCATCAAAATGGGTGGACGAGGTGGTGCCAGCGGCTCCCTACGTCACTACACTAGAGACCCTGGACAAA  
TACAACTGTGACTTCTGTGTTACGGCAATGACATCACCTGACTGTAGATGGCCGGGACACCTATGAGGAAGTA  
AAGCAGGCTGGGAGGTACAGAGAATGCAAGCGCACGCAAGGGGTGTCCACCACAGACCTCGTGGGCCGCGATGCTG  
CTGGTAACCAAAAGCCCATCACAGCAGCCAGGAGATGTCTCTGAGTACCGGGAGTATGCAGACAGTTTTGGCAAG  
TGCCCTGGTGGGCGGAACCCCTGGACCGGGGTATCCAGTTCTCTGCAGACATCTCAGAAGATCATCCAGTTTGCT  
TCTGGGAAGGAGCCCCAGCCAGGGGAGACAGTCATCTATGTGGCTGGTGCCTTCGACCTGTTCCACATCGGGCAT  
GTGGACTTCTTGAGAAGGTGCACAGGCTGGCAGAGAGGCCCTACATCATCGCGGGCTTACACTTTGACCAGGAG  
GTCAATCACTACAAGGGGAAGAACTACCCCATCATGAATCTGCATGAACGGACTCTGAGCGTGTGGCCTGCCGG  
TACGTGTCAGAAGTGGTGATTGGAGCCCCGTACGCGGTACAGCAGAGCTCCTAAGTCACTTCAAGGTGGACCTG  
GTGTGTCACGGCAAGACAGAAATTATCCCTGACAGGGATGGCTCCGACCCATAACCAGGAGCCCAAGAGAAGGGC  
ATCTTCCGTCAGATTGACAGTGGCAGCAACCATACCAAAGACTCATCGTCAGCGGATTATCACAAACAXXXXXX  
XXXXXGAGGCGCTAAACGAGAAGAAGGAAGCCAAGGAGCTCGCCTTCTGGAGGTGCCAGGCAGCAGGCGCACAG  
CCCTGGGGAGCGCGATGGTACTTCTAACCTGGCAGAGCCCTGCCGGCCCTCCCCCTGCTCTGCTTCTGCGCCTTC  
TGCGTTTGGACATAGGACTCTGCAGGGCCGCCCTCTCTAACTGGCCTGGCTCTGGAAGGGCTGGTGAGGACTCTG  
CCTCCTTGCTGCCTACAAGGTGCCTGGTTTGCAGCAGGCTCTCCGCTCTTTCCAGCAAAGCTGCTCAGAGAGGG  
TGTCCAGCACAGTGGAGAGGCCGGAAGTGAGACGGGCAGACGGCACCTGCAGCCTGAAACGCACCGCTCCTGCGT  
GCGCCCCACCTGGTCCCCGGATGCCCCACCACCTGGACAGAGGCCACACTGACTGCCCACCCAGCTGTGGCGG  
GAGGTGCAGAGCAGAGGGCTTTAGGGAGCAGTGACTGCGGTACCCCTTTAGTTCTCTGGGTGTAGACCACACCA  
CCTCCCACTGGGCACCCCCAACACGGTGTCTTGCCACCCAGCGCCTGGCTCCAGGAAAACACGCTTGCCTTCCT  
TCCCGGCAGCTTCGCCACTCTCCTTATGGACTCTGTTCTGTTTGTACATGGCTGACGGAAATCTCTTTGGTACAA  
CCGAATAAAGCCTGGTGGCAGTGCTGCGCGGGGCTCCAGCC



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**FIGURE 5000**

TGACCTGACCTCTCTCCTCTCCCCTCACCTCCTGCCCCCTGGCCACTGCAGGATCAGGAGGGGAGAAGAAGGAGC  
CTCTGCTGCCTCCCAGGCTGCTGGGACTGGGCTGGTTTTGTCTTGAAGTGGTCAGGATACAGGACAAGGGCAGC  
CCCACCCCATCCAGCCTGGGCTCCCCGCAGACCTTGCTGCTCCCGTGGCCTGGACACGCTGGGGAGCTTCTCAC  
ACCTACCCAGGCTGACCCTGAGGTGCTGCTGCTGGGTCTGTCTTGGCTCTGGGGTGTGCTGGGAGGGTCACCAG  
GTCCCTTTTCCTTCCTGTGCCCTCTGAAAGCTAAGTGTCTGTGTGGCTGTGGAGCTCGAGGGTCTGTGAATAAAG  
GCGGCGGCACTGGG

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**FIGURE 5001**

CCCCTACACACCGTCCGTTACCCCCGTCTCTTCCTTCTGCTTTTCGGTTTTTGGAAAGGGATCCATCTCCAGGC  
AGCCCACCCTGGTGGGGCTTGTTTCCTGAAACCATGATGTACTTTTTCATACATGAGTCTGTCCAGAGTGCTTGC  
TACCGTGTTTCGGAGTCTCGCTGCCTCCCTCCCGCGGGAGGTTTCTCCTCTTTTGGAAATTCGCTCTGTGGGATT  
TTTAGACATTTTTCGACATCAGGGGTGTCCCCATGCCTGGAAGAGGAGCTGGTGGCTGCCAGCCCTGGGGCCCG  
GCACAGGCCTGGGCCTTCCCCTTCCCTCAAGCCAGGGCTCCTCCTCCTGTCGTGGGCTCATTGTGACCACTGGCC  
TCTCTACAGCACGGCCTGTGGCCTGTTCAAGGCAGAACCACGACCCTTGACTCCCGGGTGGGGAGGTGGCCAAGG  
ATGCTGGAGCTGAATCAGACGCTGACAGTTCTTCAGGCATTTCTATTTACAATCGAATTGAACACATTGGCCAA  
ATAAAGTTGAAATTTT

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**FIGURE 5002**

GGCACGAGGGGGCGGCCGACGACGTTTCGTCAATTTAGTGCGGGAGGGATCCTGAACCGCGCGGCCGAACCCCTCCGG  
TGTCCCGACCCAGGCTAAGCTTGAGCATGGCTGAGCAGGAGCCCCACAGCCGAGCAGCTGGCCCAGATTGCAGCGG  
AGAACGAGGAGGATGAGCACTCGGTCAACTACAAGCCCCCGGCCAGAAAGAGCATCCAGGAGATCCAGGAGCTGG  
ACAAGGACGACGAGAGCCTGCGAAAGTACAAGGAGGCCCTGCTGGGCCGCGTGGCCGTTTCCGCAGACCCCAACG  
TCCCCAACGTCGTGGTGACTGGCCTGACCCTGGTGTGCAGCTCGGCCCGGGCCCCCTGGAGCTGGACCTGACGG  
GCGACCTGGAGAGCTTCAAGAAGCAGTCGTTTGTGCTGAAGGAGGGTGTGGAGTACCGGATAAAAAATCTCTTTCC  
GGGTAAACCGAGAGATAGTGTCCGGCATGAAGTACATCCAGCATACGTACAGGAAAGGCGTCAAGATTGACAAGA  
CTGACTACATGGTAGGCAGCTATGGGCCCGGGCCGAGGAGTACGAGTTCTTGACCCCGTGGAGGAGGCACCCA  
AGGGTATGCTGGCCCCGGGGCAGCTACAGCATCAAGTCCCGCTTACAGACGACGACAAGACCGACCACCTGTCCT  
GGGAGTGAATCTCACCATCAAGAAGGACTGGAAGGACTGAGCCAGCCAGAGGCGGGCAGGGCAGACTGACGGA  
CGGACGACGGACAGGCGGATGTGTCCCCCAGCCCCCTCCCTCCCCATAACAAAGTGCTGACAGGCCCTCCGTG  
CCCCCCCCACCTGGTCCGCCCTCCCTGGCCTGGCTCAACCGAGTGCCTCCGACCCCCCTCCTCAGCCCTCCCCCA  
CCCACAGGCCCAGCCTCCTCGGTCTCCTGTCTCGTTGCTGCTTCTGCCTGTGCTGTGGGGGAGAGAGGCCGCAGC  
CAGGCCTCTGCTGCCCTTTCTGTGCCCCCAGGTTCTATCTCCCCGTCACACCCGAGGCCTGGCTTCAGGAGGGA  
GCGGAGCAGCCATTCTCCAGGCCCGTGGTTGCCCCCTGGACGTGTGCGTCTGCTGCTCCGGGGTGGAGCTGGGGT  
GTGGGATGCACGGCCTCGTGGGGGCCGGGCCGTCTCCAGCCCCGCTGCTCCCTGGCCAGCCCCCTTGTGCTGT  
CGGTCCCGTCTAACCATGATGCCTTAACATGTGGAGTGTACCGTGGGGCCTCACTAGCCTCTAACTCCCTGTGTC  
TGCTGCTCCAGCCACCAAGTGCCCTGGCCAGCCTGCCCCCTTCCCTGGACAGGGCTGTGGAGATGGCTCCGGCG  
GCTTGGGGAAAGCCAAATTGCCAAAACCTCAAGTCACCTCAGTACCATCCAGGAGGCTGGGTATTGTCTGCCTCT  
GCCTTTTCTGTCTCAGCGGGCAGTGCCAGAGCCACACCCCCCAAGAGCCCTCGATGGACAGCCTCACCCACC  
CCACCTGGGCCAGCCAGGAGCCCCGCTGGCCATCAGTATTTATTGCCTCCGTCCGTGCCGTCCCTGGGCCACT  
GGCCTGGCGCCTGTTCCCCCAGGCTCTCAGTGCCACCACCCCCGGCAGGCCTTCCCTGACCCAGCCAGGAACAAA  
CAAGGGACCAAGTGACACATTGCTGAGAGCCGTCTCCTGTGCTCCCCCGCCCCATCCCCGGTCTTCGTGTTGT  
GTCTGCCAGGCTCAGGCAGAGGCGCCTGTCCCTGCTTCTTTTCTGACCGGAAATAAATGCCCTGAAGGAAAAA  
AAA

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**FIGURE 5003**

MAEQEPTAEQLAQIAAENEDEHSVNYKPPAQKSIQEIQELDKDDESLRKYKEALLGRVAVSADPNVPNVVVTGL  
TLVCSSAPGPLEDLTGDLESFKKQSFVLKEGVEYRIKISFRVNREIVSGMKYIQHTYRKGVKIDKTDYMGVGSYG  
PRAEYEFLLTPVEEAPKGMLARGSYSIKSRFTDDDKTDHLSWEWNLTIKKDWKD

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**FIGURE 5004**

CTCCGGACAGCATGAGCGTGGGCTTCATCGGCGCTGGCCAGCTGGCTTTTGCCCTGGCCAAGGCTTTCACAGCAG  
CAGGCGTCTTGGCTGCCCACAAGATAATGGCTAGCTCCCCAGACATGGACCTGGCCACAGTTTCTGCTCTCAGGA  
AGATGGGGGTGAAGTTGACACCCCACAACAAGGAGACGGTGCAGCACAGTGATGTGCTCTTCCTGGCTGTGAAGC  
CACACATCATCCCCCTTCATCCTGGATGAAATAGGCGCCGACATTGAGGACAGACACATTGTGGTGTCTGCGCGG  
CCGGCGTCAACATCAGCTCCATTGAGAAGAAGCTGTGAGCGTTTCGGCCAGCCCCCAGGGTTCATCCGCTGCATGA  
CCAACACTCCAGTCGTGGTGCAGGAGGGGGCCACCGTGTATGCCACAGGACGCACGCCCAGGTGGAGGACGGGAG  
GCTC**ATGG**AGCAGCTGCTGAGCAGCGTGGGCTTCTGCACGGAGGTGGAAGAGGACCTGATTGATGCCGTACGGG  
GCTCAGTGGCAGCGGCCCCGCTACGCATTACAGCCCTGGATGCCCTGGCTGATGGGGGTGTGAAGATGGGACT  
TCCAAGGCGCTGGCAGTCCGCCCTCGGGGCCAGGCCCTCCTGGGGGCTGCCAAGATGCTGCTGCACTCAGAACA  
GCACCCAGGCCAGCTCAAGGACAACGTCAGCTCTCCTGGTGGGGCCACCATCCATGCCCTTGATGTGCTGGAGAG  
TGGGGGCTTCCGCTCCCTGCTCATCAACGCTGTGGAGGCCTCCTGCATCCGCACACGGGAGCTGCAGTCCATGGC  
TGACCAGGAGCAGGTGTCAACAGCCGCCATCAAGAAGACCATCCTGGACAAGGTGAAGCTGGACTCCCCTGAGG  
GACCGCTCTGTACCTTCTGGCCACACCAAGCTGCTCCCCCGCAGCCTGGCCCCAGCGGGCAAGGAT**TGAC**ACGT  
CCTGCCTGACCACCATCCTGCCACCACCTTCTCTTCTTGTCTACTAGGGGGACTAGGGGGTCCCCAAAGTGGCC  
CACTTTCTGTGGCTCTGATCAGCGCAGGGGGCCAGCCAGGGACATAGCCAGGGAGGGGCCACATCACTTCCCACTG  
GAAATCTCTGTGGTCTGCAAGTGCTTCCAGCCCAGAACAGGGGTGGATTCCCCAACCTCAACCTCCTTTCTTCT  
CTGCTCCCAAACCATGTCAAGGACCACCTTCCTCTAGAGCTCGGGAGCCCGGAGGGTCTTCACCCACTCCTACTCC  
AGTATCAGCTGGCACGGGCTCCTTCCTGAGAGCAAAGGTCAAGGACCCCTCTGTGAAGGCTCAGCAGAGGTGGG  
ATCCCACGCCCCCTCCCGGCCCTCCCTGCCCTCCATTGAGGAGAAACCTCTCCTTCCCGTGTGAGAAGGGCCA  
GAGGGTCCAGGCATCCCAAGTCCAGCGTGAAGGGCCACAGCCCTCTTGGCTGCCAAGCACGCAGATCCCATGGA  
CATTTGGGGAAGGGGCTCCTTGGGCTGCTGGTGAACCTCTGTGGCCACCACCTCCTGCTCCTGACCTCCCTGGGA  
GGGTGCTATCAGTTCTGTCCCTGGCCCTTTCAGTTTTATAAGTTGGTTTCCAGCCCCCAGTGTCTGACTTCTGTC  
TGCCACATGAGGAGGGAGGCCCTGCCCTGTGTGGGAGGGTGGTTACTGTGGGTGGAATAGTGAGGCCTTCAACTG  
ATTAGACAAGGCCCCGCCACATCTTGAGGGGCATCTGCCTTACTGATTAAATGTCAATGTAATCT

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**FIGURE 5005**

MEQLLSSVGFCTEVEEDLIDAVTGLSGSGPAYAFTALDALADGGVKMGLPRRLAVRLGAQALLGAAKMLLHSEQH  
PGQLKDNVSSPGGATIHVLES GGFRSLLINAVEASCIRTRELQSMADQEQVSPAAIKKTILDKVKLDSPAGT  
ALSPSGHTKLLPRSLAPAGKD

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**FIGURE 5006**

GACATGGAGCTGTTCTCGCGGGCCGCCGGGTGCTGGTCACCGGGGCAGGCAAAGGTATAGGGCGCGGCACGGTC  
CAGGCGCTGCACGCGACGGGCGCGGGTGGTGGCTGTGAGCCGGACTCAGGCGGATCTTGACAGCCTTGTCGC  
GAGTGCCCGGGGATAGAACCCGTGTGCGTGGACCTGGGTGACTGGGAGGCCACCGAGCGGGCGCTGGGCAGCGTG  
GGCCCCGTGGACCTGCTGGTGAACAACGCCGTGTGCCCCGTGCTGCAGCCCTTCCTGGAGGTCACCAAGGAGGCC  
TTTGACAGATCCTTTGAGGTGAACCTGCGTGGGTGTCATCCAGGTGTCGCAGATTGTGGCCAGGGGCTTAATAGCC  
CGGGGAGTCCCAGGGGCCATCGTGAATGTCTCCAGCCAGTGCTCCCAGCGGGCAGTAACCTAACCATAGCGTCTAC  
TGCTCCACCAAGGGTGGCCTGGACATGCTGACCAAGGTGATGGCCCTAGAGCTCGGGCCCCACAAGATCCGAGTG  
AATGCAGTAAACCCACAGTGGTGATGACGTCCATGGGCCAGGCCACCTGGAGTGACCCCCACAAGGCCAAGACT  
ATGCTGAACCGAATCCCACTTGGCAAGTTTGCTGAGGTAGAGCACGTGGTGAACGCCATCCTCTTTCTGCTGAGT  
GACCGAAGTGGCATGACCACGGGTCCACTTTGCCGGTGGAAGGGGGCTTCTGGGCCTGCTTGAGCTCCCTCCACA  
CACCTCAAGCCCCATGCCGTGCTCATCCTACCCCCAATCCCTCCAATAAACCTGATTCTGCTGCCCAAAAAAAAA  
AAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5007**

MELFLAGRRVLVTGAGKGIGRGTVQALHATGARVVAVSRTQADLDSLVRPCGIEPVCVDLGDWEATERALGSVG  
PVDLLVNNAAVALLQPFLEVTKAEFDRSFEVNLRAVIQVSQIVARGLIARGVPGAIVNVSSQCSQRAVTNHSVYC  
STKGALDMLTKVMALELGPHKIRVNAVNP TVVMTSMGQATWSDPHKAKTMLNRIPLGKFAEVEHVVNAILFLLSD  
RSGMTTGSTLPVEGGFWAC



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**FIGURE 5008**

TCTCTGAAGTTCCAGAATCGATGGAAGTGGACGGCACGCCGCGGGGTGGGTGCAAGATGCCGCTGCCGGTTC  
AGGTGTTTAACTTGCAGGGGGCCGTGGAGCCCATGCAGATCGACGTGGACCCCCAGGAAGACCCGCAGAATGCAC  
CTGACGTCAACTACGTGGTGGAGAACCCAGCCTGGATCTGGAACAGTACGCGGCCAGCTACAGCGGCCCTGATGC  
GCATCGAACGGCTGCAGTTCATTGCTGATCACTGCCCCACGCTGCGGGTGGAGGCCCTGAAGATGGCCCTCTCCT  
TCGTGCAGAGAACCCTTTAACGTGGACATGTACGAGGAGATCCACCGCAAGCTCTCAGAGGCCACCAGGGAGCTGC  
AGAACGCACCCGACGCCATCCCTGAGAGCGGCGTGGAGCCCCAGCCCTGGACACGGCCTGGGTGGAGGCCACGC  
GGAAGAAGGCGCTGCTGAAGCTGGAGAAGCTGGACACAGACCTGAAGAACTACAAGGGCAACTCCATCAAAGAGA  
GCATCCGGCGCGGCCACGACGACCTGGGCGACCACTACCTGGACTGTGGGGACCTCAGCAACGCCCTCAAGTGCT  
ATTCCCGGGCCCGGGACTACTGCACCAGCGCCAAACACGTCAACATGTGCCCTCAATGTCATCAAGGTCAGCG  
TCTACTTGCAGAATTGGTCTCATGTGCTCAGCTACGTACGCAAGGCTGAGTCCACCCAGAGATTGCCGAGCAGC  
GAGGAGAGCGTGACAGCCAGACCCAGGCCATCCTCACCAAGCTCAAGTGTGCCGCAGGCTTGGCAGAGCTGGCCG  
CCAGGAAGTACAAGCAGGCTGCCAAGTGCCTCCTGCTGGCTTCCCTTTGATCACTGTGACTTCCCTGAGCTGCTGT  
CCCCAGCAACGTGGCCATCTACGGTGGCCTGTGCGCCTTGGCTACCTTTGACCGGCAGGAGCTGCAGCGCAATG  
TCATCTCCAGCAGCTCCTTCAAGTTGTTCTTGGAGCTGGAGCCACAGGTCCGAGACATCATCTTCAAATTCTACG  
AGTCCAAGTACGCCTCATGTCTCAAGATGCTGGACGAGATGAAGGACAACCTGCTCCTGGACATGTATCTGGCCC  
CCCATGTCAGGACCCCTGTACACCCAGATTTCGCAACCGTGCCCTCATCCAGTATTTACAGCCCTACGTGTCAGCCG  
ACATGCATAGGATGGCGGCAGCCTTCAATACCACGGTGGCCGCCCTGGAGGACGAGCTGACGCAGCTAATCCTGG  
AGGGGCTGATCAGTGCCCGTGTGGACTCACACAGCAAGATCCTATACGCCCGGGACGTGGATCAGCGCAGCACCA  
CCTTTGAGAAGTCTCTGTTGATGGGCAAGGAGTTCCAGCGCCGCGCCAAGGCCATGATGCTGCGGGCAGCTGTGC  
TCCGCAACCAGATCCATGTCAAGTCCCCGCCAGAGAAGGGAGCCAGGGGGAGCTGACTCCAGCCAACAGCCAGT  
CCCGGATGAGCACCAACATGTGAAGGGGTGAACCTTGGCCTCCAGGACATCTGCACCCCTCCCCACCTCCACGGA  
CCTCGGACCTCCAGGCGGCTCAGTGCTGCCTGCGGCCAGCTAAGGGGCCTGGCCACTGGGTGCCACCCAGCCTG  
TGTGCCCTCCCTGGGGCTGAGGAGGCAGGCGGCTGCTAGTTGTGGCCCTTCCCTGGAAGGAGAGGCCCTGCAGGGCT  
CGACCTGTGGGTTTCTGTCCCCAGGGAGCAGACTGTGCGGCACCCAGGCCAGTGGCACCATTTCCAGACCCC  
TCCTGTTCCCGCCTCAGTCAGGTGCAGACAAGTGGGCGGTGTCCATTAAAGAGCAGACTCAGCGTT

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**FIGURE 5009**

MEVDGTPRRGGCKMPLPVQVFNLOGAVEPMQIDVDPQEDPQNAPDVNYVVENPSLDLEQYAASYSGLMRIERLQF  
IADHCPTLRVEALKMALS FVQRTFNVD MYEEIHRKLSEATRELQNAPDAIPESGVEPPALDTAWVEATRKKALLK  
LEKLD TDLK NYKGNSIKESIRRGHDDLGDHYLDCGDL SNALKCYSRARDYCTSAKHVINMCLNVIKVSVYLQNWS  
HVL SYVSKAESTPEIAEQRGERDSQTQAILTKLKCAAGLAELAARKYKQAAKCLLLASFDHCD FPELLSPSNVAI  
YGGLCALATFDRQELQRNVISSSSFKLFLELEPQVRDIIFKFYESKYASCLKMLDEMKNLLLD MYLAPHVRTLY  
TQIRNRALIQYFSPYVSADMRMAAAFNTTVA ALEDEL TQLILEGLISARVDSH SKILYARDVDQRSTTFEKSLL  
MGKEFQRRAKAMMLRAAVLRNQIHVKSPPREGSQGELTPANSQSRMSTNM

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**FIGURE 5010A**

ACGGCAGCGGCCCCGGCCTCCCTCTCCGCCGCGCTTCAGCCTCCCGCTCCGCCGCGCTCCAGCCTCGCTCTCCGC  
CGCCCCGACCGCCGCCCCGCGCCCTCACCAGAGCAGCCATGGAGGAGGTGGTGATTGCCGGCATGTCCGGGAAGCT  
GCCAGAGTCGGAGAACTTGCAGGAGTTCTGGGACAACCTCATCGGCGGTGTGGACATGGTCACGGACGATGACCG  
TCGCTGGAAGGCGGCTCTACGGCCTGCCCCGGCGGTCCGGCAAGCTGAAGGACCTGTCTAGGTTTTGATGCCTCCT  
TCTTCGGAGTCCACCCCAAGCAGGCACACACGATGGACCCTCAGCTGCGGCTGCTGCTGGAAGTCACCTATGAAG  
CCATCGTGGACGGAGGCATCAACCCAGATTCACTCCGAGGAACACACACTGGCGTCTGGGTGGGCGTGAGCGGCT  
CTGAGACCTCGGAGGCCCTGAGCCGAGACCCCGAGACACTCGTGGGCTACAGCATGGTGGGCTGCCAGCGAGCGA  
TGATGGCCAACCGGCTCTCCTTCTTCTTCGACTTCAGAGGGCCCAGCATCGCACTGGACACAGCCTGCTCCTCCA  
GCCTGATGGCCCTGCAGAACGCCCTACCAGGCCATCCACAGCGGGCAGTGCCCTGCCGCCATCGTGGGGGGCATCA  
ATGTCCTGTGAAGCCCAACACCTCCGTGCAGTTCTTGAGGCTGGGGATGCTCAGCCCCGAGGGCACCTGCAAGG  
CCTTCGACACAGCGGGGAATGGGTACTGCCGCTCGGAGGGTGTGGTGGCCGCTCTGCTGACCAAGAAGTCCCTGG  
CCCGGCGGGTGTACGCCACCATCCTGAACGCCGGCACCAATACAGATGGCTTCAAGGAGCAAGGCGTGACCTTCC  
CCTCAGGGGATATCCAGGAGCAGCTCATCCGCTCGTTGTACCAGTCGGCCGGAGTGGCCCCGTAGTCAATTTGAAT  
ACATCGAAGCCACGGCACAGGCACCAAGGTGGGCGACCCCCAGGAGCTGAATGGCATCACCCGAGCCCTGTGCG  
CCACCCGCCAGGAGCCGCTGCTCATCGGCTCCACCAAGTCCAACATGGGGCACCCGGAGCCAGCCTCGGGGCTGG  
CAGCCCTGGCCAAGGTGCTGCTGTCCCTGGAGCACGGGCTCTGGGCCCCCAACCTGCATTCCATAGCCCCAAC  
CTGAGATCCACGCGTGTGGATGGGCGGCTGCAGGTGGTGGACCAGCCCCCTGCCCGTCCGTGGCGGCAACGTGG  
GCATCAACTCCTTTGGCTTCGGGGGCTCCAACGTGCACATCATCCTGAGGCCCAACACGCAGCCGCCCCCGCAC  
CCGCCCCACATGCCACCCTGCCCGCTCTGCTGCGGGCCAGCGGACGCACCCCTGAGGCCGTGCAGAAGCTGCTGG  
AGCAGGGCCTCCGGCACAGCCAGGACCTGGCTTTCTGAGCATGCTGAACGACATCGCGGCTGTCCCCGCCACCG  
CCATGCCCTTCCGTGGCTACGCTGTGCTGGGTGGTGAGCGCGGTGGCCAGAGGTGCAGAGGTGCCCGCTGGCG  
AGCGCCCGCTCTGGTTTCATCTGCTCTGGGATGGGCACACAGTGGCGCGGGATGGGGCTGAGCCTCATGCGCCTGG  
ACCGCTTCCGAGATTCCATCCTACGCTCCGATGAGGCTGTGAAGCCATTCCGCCCTGAAGGTGTACAGCTGCTGC  
TGAGCACAGACGAGAGCACCTTTGATGACATCGTCCATTGTTTTGTGAGCCTGACTGCCATCCAGATAGGCCTCA  
TAGACCTGCTGAGCTGCATGGGGCTGAGGCCAGATGGCATCGTCGCCCACTCCCTGGGGGAGGTGGCCTGTGGCT  
ACGCGGACGGCTGCCTGTCCAGGAGGAGGCCGTCTCGCTGCCTACTGGAGGGGACAGTGCATCAAGAAGCCC  
ATCTCCCCGCCGGCGCCATGGCAGCCGTGGGCTTGTCTGGGAGGAGTGTAACAGCGCTGCCCCCGGGCGTGG  
TGCCCCGCTGCCACAACCTCCAAGGACACAGTCACCATCTCGGGACCTCAGGCCCCGGTGTGTTGAGTTCTGTGGAGC  
AGCTGAGGAAGGAGGGTGTGTTTGCCAAGGAGGTGCGGACCGGCGGTATGGCCTTCCACTCCTACTTCATGGAGG  
CCATCGCACCCCCACTGCTGCAGGAGCTCAAGAAGGTGATCCGGGAGCCGAAGCCACGTTACGCCCCGTGGCTCA  
GCACCTCTATCCCCGAGGCCAGTGGCACAGCAGCCTGGCACGCACGTCTCCGCCGAGTACAATGTCAACAACC  
TGGTGAGCCCTGTGCTGTTCCAGGAGGCCCTGTGGCACGTGCCTGAGCACGCGGTGGTGTGGAGATCGCGCCCC  
ACGCCCTGTGTCAGGCTGTCTGAAGCGTGGCCTGAAGCCGAGCTGCACCATCATCCCCCTGATGAAGAAGGATC  
ACAGGGACAACCTGGAGTTCTTCTTGGCCGGCATCGGCAGGCTGCACCTCTCAGGCATCGACGCCAACCCCAATG  
CCTTGTTCCACCTGTGGAGTTCCAGCTCCCCGAGGAACCTCCCTCATCTCCCCACTCATCAAGTGGGACCACA  
GCCTGGCCTGGGACGTGCCGGCCGCGAGGACTTCCCAACGGTTTCAGGTTCCCCCTCAGCCGCCATCTACAACA  
TCGACACCAGCTCCGAGTCTCCTGACCACTACCTGGTGGACCACACCCTCGACGGTCCGCTCCTCTTCCCCGCCA  
CTGGCTACCTGAGCATAGTGTGGAAGACGCTGGCCCCGCGCCCTGGGCCTGGGCGTCGAGCAGCTGCCTGTGGTGT  
TTGAGGATGTGGTGTGTCACCAGGCCACCATCCTGCCAAGACTGGGACAGTGTCCCTGGAGGTACGGCTCCTGG  
AGGCCTCCCGTGCCTTCGAGGTGTGAGAGAAGGCAACCTGGTAGTGAGTGGGAAGGTGTACCAAGTGGGATGACC  
CTGACCCAGGCTCTTCGACCACCCGAAAGCCCCACCCCAACCCACAGGAGCCCCCTCTTCTTGGCCCAGGCTG  
AAGTTTACAAGGAGCTGCGTCTGCGTGGCTACGACTACGGCCCTCATTTCCAGGGCATCCTGGAGGCCAGCCTGG  
AAGGTGACTCGGGGAGGCTGCTGTGGAAGGATAACTGGGTGAGCTTCATGGACACCATGCTGCAGATGTCCATCC  
TGGGCTCGGCCAAGCACGGCCTGTACCTGCCACCCGTGTACCGCCATCCACATCGACCCCTGCCACCCACAGGC  
AGAAGCTGTACACACTGCAGGACAAGGCCCAAGTGGCTGACGTGGTGGTGGAGAGGTGGCTGAGGGTCACAGTGG  
CCGGAGGCGTCCACATCTCCGGGCTCCACACTGAGTCGGCCCCGCGGGCGGAGCAGGAGCAGAGGTGCCCATCC  
TGGAGAAGTTTTGCTTCACTCCCCACAGGAGGAGGGTGCCTGTCTGAGCGCGCTGCCCTGCAGGAGGAGCTGC  
AACTGTGCAAGGGGCTGGTGCAGGCACTGCAGACCAAGGTGACCCAGCAGGGGCTGAAGATGGTGGTGGCCGGAC

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**FIGURE 5010B**

TGGATGGGGCCCAGATCCCCCGGGACCCCTCACAGCAGGAAGTGTGCCCCGGCTGTTGTGCGGCTGCCTGCAGGCTTC  
AGCTCAACGGGAACCTGCAGCTGGAGCTGGCGCAGGTGCTGGCCCAGGAGAGGCCCAAGCTGCCAGAGGACCCTC  
TGCTCAGCGGCCTCCTGGACTCCCCGGCACTCAAGGCCTGCCTGGACACTGCCGTGGAGAACATGCCAGCCTGA  
AGATGAAGGTGGTGGAGGTGCTGGCTGGCCACGGTCACCTGTATTCCCGCATCCAGGCCCTGCTCAGCCCCATC  
CCCTGCTGCAGCTGAGCTACACGGCCACCGACCGCCACCCCAAGGCCCTGGAGGCTGCCAGGCCGAGCTGCAGC  
AGCACGACGTTGCCAGGGCCAGTGGGATCCCGCAGACCCTGCCCCAGCGCCCTGGGCAGCGCCGACCTCCTGG  
TGTGCAACTGTGCTGTGGCTGCCCTCGGGGACCCGGCCTCAGCTCTCAGCAACATGGTGGCTGCCCTGAGAGAAG  
GGGGCTTTCTGCTCCTGCACACACTGCTCCGGGGGACCCCTCGGGGACATCGTGGCCTTCTCACCTCCACTG  
AGCCGCAGTATGGCCAGGGCATCCTGAGCCAGGACGCGTGGGAGAGCCTCTTCTCCAGGGTGTGCTGCGCCTGG  
TGGGCTGAAGAAGTCTTCTACGGCTCCACGCTCTTCTGTGCCGCCGGCCCCACCCCGCAGGACAGCCCCATCT  
TCTGCGGTGGACGATAACCAGCTTCCGCTGGGTGGAGTCTCTGAAGGGCATCCTGGCTGACGAAGACTCTTCCC  
GGCCTGTGTGGCTGAAGGCCATCAACTGTGCCACCTCGGGCGTGGTGGGCTTGGTGAAGTGTCTCCGCCGAGAGC  
CCGGCGGGAACCGCCTCCGGTGTGTGCTGCTCTCAACCTCAGCAGCACCTCCCACGTCCCGGAGGTGGACCCGG  
GCTCCGCAGAACTGCAGAAGGTGTTGCAGGGAGACCTGGTGTGAACGTCTACCGCGACGGGGCTGGGGGGCTT  
TCCGCCACTTCTGCTGGAGGAGGACAAGCCTGAGGAGCCGACGGCACATGCCTTTGTGAGCACCTCACCCGGG  
GGGACCTGTCTCCATCCGCTGGGTCTGCTCCTCGCTGCGCCATGCCAGCCACCTGCCCTGGCGCCAGCTCT  
GCACGGTCTACTACGCTCCCTCAACTTCCGCGACATCATGCTGGCCACTGGCAAGCTGTCCCTGATGCCATCC  
CAGGGAAGTGGACCTCCCAGGACAGCCTGCTAGGTATGGAGTTCTCGGGCCGAGACGCCAGCGGAAGCGTGTGA  
TGGGACTGGTGCCTGCCAAGGGCCTGGCCACCTCTGTCTGCTGTACCCGGACTTCTCTGGGATGTGCCTTCCA  
ACTGGACGCTGGAGGAGGCGGCCTCGGTGCCTGTGCTCTACAGCACGGCCTACTACGCGTGGTGGTGGTGGGC  
GGGTGCGCCCCGGGGAGACGCTGCTCATCCACTCGGGCTCGGGCGGCGTGGGCCAGGCCCCATCGCCATCGCCC  
TCAGTCTGGGCTGCCGCGTCTTACCACCGTGGGGTTCGGCTGAGAAGCGGGCGTACCTCCAGGCCAGGTTCCCC  
AGCTCGACAGCACCAGCTTCGCCAACTCCCGGGACACATCCTTCGAGCAGCATGTGCTGTGGCACACGGGGCGGGA  
AGGGCGTTGACCTGGTCTTGAATCCTTGGCGGAAGAGAAGCTGCAGGCCAGCGTGAGGTGCTTGGCTACGCACG  
GTCGCTTCTTGAAATTTGGCAAATTCGACCTTCTCAGAACACCCGCTCGGCATGGCTATCTTCTGAAGAAGC  
TGACATTCCACGGGGTCTACTGGATGCGTTCTTCAACGAGAGCAGTGTGCTGACTGGCGGGAGGTGTGGGCGCTTG  
TGCAGGCCGGCATCCGGGATGGGGTGGTACGGCCCTCAAGTGCACGGTGTTCATGGGGCCAGGTGGAGGACG  
CCTTCCGCTACATGGCCCAAGGGAAGCACATTGGCAAAGTCTGTCGTGCAGGTGCTTGGCGAGGAGCCGGAGGCAG  
TGCTGAAGGGGGCCAAACCCAAGCTGATGTTCGGCCATCTCCAAGACCTTCTGCCCCGGCCACAAGAGCTACATCA  
TCGCTGGTGGTCTGGGTGGCTTCGGCTGGAGTTGGCGCAGTGGCTGATACAGCGTGGGGTGCAAGACTCGTGT  
TGACTTCTCGCTCCGGGATCCGGACAGGCTACCAGGCCAAGCAGGTCCGCCGGTGGAGGCGCCAGGGCGTACAGG  
TGCAGGTGTCCACCAGCAACATCAGCTCACTGGAGGGGGCCCGGGGCTCATTGCCGAGGCGGCGCAGCTTGGGC  
CCGTGGGCGGCGTCTTCAACCTGGCCGTGGTCTTGAGAGATGGCTTGTGAGAAACCAGACCCAGAGTTCTTCC  
AGGACGTCTGCAAGCCCCAAGTACAGCGGCACCTGAACCTGGACAGGGTGACCCGAGAGGCGTGCCCTGAGCTGG  
ACTACTTTGTGGTCTTCTCCTCTGTGAGCTGCGGGCGTGGCAATGCGGGACAGAGCAACTACGGCTTTGCCAATT  
CCGCCATGGAGCGTATCTGTGAGAAACGCCGGCACGAAGGCCTCCCAGGCCTGGCCGTGCAGTGGGGCGCCATCG  
GCGACGTGGGCATTTTGGTGGAGACGATGAGCACCAACGACACGATCGTCAGTGGCACGCTGCCCCAGCGCATGG  
CGTCTGCCTGGAGGTGCTGGACCTCTTCTGAACCAGCCCCACATGGTCTGAGCAGCTTTGTGCTGGCTGAGA  
AGGCTGCGGCCTATAGGGACAGGGACAGCCAGCGGGACCTGGTGGAGGCGGTGGCACACATCCTGGGCATCCGCG  
ACTTGGCTGCTGTCAACCTGGACAGCTCACTGGCGGACCTGGGCCTGGACTCGCTCATGAGCGTGGAGGTGCGCC  
AGACGCTGGAGCGTGAGCTCAACCTGGTGTGTCCGTGCGCGAGGTGCGGCAACTCAGCTCCGGAAGTGCAGG  
AGCTGTCTTCAAAGGCGGATGAGGCCAGCGAGCTGGCATGCCCCACGCCCAAGGAGGATGGTCTGGCCCAGCAGC  
AGACTCAGCTGAACCTGCGCTCCCTGCTGGTGAACCCGGAGGGCCCCACCCTGATGCGGCTCAACTCCGTGCAGA  
GCTCGGAGCGGGCCCTGTTCTGGTGCACCCAATCGAGGGCTCCACCACCGTGTTCACAGCCTGGCTGCCCTACT  
ACATCGACTGCATCAGGCAGGTGCAGCCGAGGGCCCTACCGCGTGGCCGGCTACTCCTACGGGGCTGCGTGG  
CCTTTGAAATGTGCTCCAGCTGCAGGCCAGCAGAGCCAGCCCCACCCACAACAGCCTCTTCTGTTTCGACG  
GCTCGCCACCTACGTACTGGCTACACCCAGAGCTACCGGGCAAAGCTGACCCAGGCTGTGAGGCTGAGGCTG

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**FIGURE 5010C**

AGACGGAGGCCATATGCTTCTTCGTGCAGCAGTTACGGACATGGAGCACAACAGGGTGCTGGAGGCGCTGCTGC  
CGCTGAAGGGCCTAGAGGAGCGTGTGGCAGCCGCCGTGGACCTGATCATCAAGAGCCACCAGGGCCTGGACCGCC  
AGGAGCTGAGCTTTGCGGCCCGGTCTTTCTACTACAAGCTGCGTGCCGCTGAGCAGTACACACCCAAGGCCAAGT  
ACCATGGCAACGTGATGCTACTGCGCGCCAAGACGGGTGGCGCCTACGGCGAGGACCTGGGCGCGGACTACAACC  
TCTCCCAGGTATGCGACGGGAAAGTATCCGTCCACGTCATCGAGGGTGACCACCGCACGCTGCTGGAGGGCAGCG  
GCCTGGAGTCCATCATCAGCATCATCCACAGCTCCCTGGCTGAGCCACGCGTGAGCGTGCGGGAGGGCTAGGCCC  
GTGCCCCCGCCTGCCACCGGAGGTCACTCCACCATCCCCACCCACCCACCCCGCCATGCAACGGGAT  
TGAAGGGTCCTGCCGGTGGGACCCCTGTCCGGCCCAGTGCCACTGCCCCCGAGGCTGCTAGATGTAGGTGTTAGG  
CATGTCCCACCCACCCGCCCGCTCCACGGCACCTCGGGGACACCAGAGCTGCCGACTTGGAGACTCCTGGTCTG  
TGAAGAGCCGGTGGTGCCCGTGCCCGCAGGAAGTGGGCTGGGCCTCGTGCGCCCGTGCGGGTCTGCGCTTGGTCTT  
TCTGTGCTTGGATTTGCATATTTATTGCATTGCTGGTAGAGACCCCGAGGCTGTCCACCCTGCCAAGACTCCTC  
AGGCAGCGTGTGGGTCCCGCACTCTGCCCCATTTCCCGATGTCCCCTGCGGGCGCGGGCAGCCACCCAAGCCT  
GCTGGCTGCGGCCCCCTCTCGGCCAGGCATTGGCTCAGCCCGCTGAGTGGGGGGTCTGTTGGCCAGTCCCCGAGGA  
GCTGGGCCCCCTGCACAGGCACACAGGGCCCCGCCACACCCAGCGGCCCCCGCACAGCCACCCGTGGGGTGCTGC  
CCTTATGCCCCGGCGCCGGGCACCAACTCCATGTTTGGTGTTTGTCTGTGTTTGTTCATTTTACACCAATTT  
TGCTGCTTGGATTTTGAATTTACTGTAACTGTCAGTGTACACGTCTGGACCCCGTTTCATTTTACACCAATTT  
GGTAAAAATGCTGCTCTCAGCCTCCCACAATTAAACCGCATGTGATCTCC

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**FIGURE 5011**

CAGGGAGTGCCTGCAGCACCCCGGCGGGGCCACCCAGTCTGCGTGTACACGAGGGATGAGGTGACGGGTGAAGC  
TGCCCTGCGGGGCACGACGCTGCAGTCGCTGGGCCTGACCGGGGGCAGCGCCACCATCAGGTTTGTCA**ATGA**AGTG  
CTACGACCCCGTGGGCAAGACCCAGGAAGCCTGGGCTCGTCAGCGTCGGCTGGCCAGGCAGCCGCCAGCGCTCC  
ACTTCCCTTGGAATCTGGGGAGCTCAGCCGCGGCGACTTGAGCCGTCCGGAGGACGCGGACACCTCAGGGCCCTG  
CTGCGAGCACACTCAGGAGAAGCAGAGCACAAAGGGCACCCGCAGCTGCCCCCTTTGTTCCCTTTCTCGGGTGGGGG  
ACAGAGACTGGGGGGCCCTCCTGGGCCCACGAGGCCTCTGACATCATCTTCAGCTAAGTTGCCGAAGTCCCTCTC  
CAGCCCTGGAGGCCCTCCAAGCCAAAGAAGTCCAAGTCGGGGCCAGGATCCCCAGCAGGAGCAGGAGCAGGAGCG  
GGAGCGGGATCCCCAGCAGGAGCAGGAGCGGGAGCGGCCCGTGGACCGGGAGCCCGTGGACCGGGAGCCGGTGGT  
GTGCCACCCCGACCTGGAGGAGCGGCTGCAGGCCTGGCCAGCGGAGCTGCCTGATGAGTTCTTTGAGCTGACGGT  
GGACGACGTGAGAAGACGCTTGCCCCAGCTCAAGAGTGAGCGGAAGCGCCTGGAAGAAGCCCCCTTGGTGACCAA  
GGCCTTCAGGGAGGCGCAGATAAAGGAGAAGCTGGAGCGCTACCCAAAGGTGGCTCTGAGGGTCTGTTCCTCCGA  
CCGCTACGTCTACAGGGCTTCTTCCGCCCCAGCGAGACAGGTGGGGGACTTGCGAGACTTCGTGAGGAGCCACC  
TGGGGAACCCCGAGCTGTCAATTTTACCTGTTTCATCACCCCTCCAAAAACAGTCTGGACGACCACACGCAGACCC  
TCTTTCAGGCGAACCTCTTCCCGGCCGCTCTGGTGCCTTGGGAGCCGAAGAGCCGGCAGGTGTCTACCTGGAGC  
CTGGCCTGCTGGAGCATGCCATCTCCCCATCTGCGGCCGATGTGCTGGTGGCCAGGTACATGTCCAGGGCCGCCG  
GGTCCCCCTTCCCCATTGCCAGCCCC**TGA**ACCCTGCACCTAAGTCTGAGCCAGCTGCTGAGGAGGGGGCGCTGGTCC  
CCCCTGAGCCCATCCCAGGGACGGCCAGCCCGTGAAGAGGAGCCTGGGCAAGGTGCCCAAGTGGCTGAAGCTGC  
CGGCCAGCAAGAGGTGAGAGCTGCCAGCCTGAGGTGCCACTCCGCCAGCCACAGGACCACCTCCTCTGCCAGCA  
GGAATAAAGACTTGTGCATCCCTC

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**FIGURE 5012**

MKCYDPVGKTPGSLGSSASAGQAAASAPLPLESGELSRGDLSPEDADTSGPCCEHTQEKQSTRAPAAAPFVPFS  
GGGQRLGGPPGPTRPLTSSSAKLPKSLSSPGGPSKPKKSKSGQDPQQEQEQERERDPQQEQERERPVDREPVRE  
PVVCHPDLEERLQAWPAELPDEFFELTVDDVRRRLAQLKSERKRLEEAPLVTKAFREAQIKEKLERYPKVALRVL  
FPDRYVLQGFFRSETGGGLARLREEPPGEPRVILPVHHPKNSPGRPHADPLSGEPLPGRSGALGSRRAGRCL  
PGAWPAGACHLPICGRCAGGQVHVQGRRVPFPIASP

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**FIGURE 5013**

GACCCCTCCTCCTGTAGAGAGTGGTGCTGCCCTCTCGGGATGTACCTGCAGGTGGAGACCCGCACCAGCTCCCGC  
CTCCATCTGAAGAGGGGCTCCAGGCATCCGGTCCTGGTCCCTGCTGGTTGGAATCTTGTTCGATTGGCCTGGCTGCT  
GCCTACTACAGCGGAGATAGCCTGGGCTGGAAGCTCTTCTACGTCACAGGCTGCCTGTTTGTGGCTGTGCAGAAC  
TTGGAGGACTGGGAGGAAGCCATCTTCGACAAGAGCACAGGGAAGGTTGTTTTGAAGACGTTACAGCCTCTACAAG  
AAGCTGCTGACTCTTTTTCAGAGCTGGCCACGACCAGGTGGTGGTCCCTGCTCCATGATGTCCGTGATGTGAGCGTG  
GAGGAGGAGAAGGTCCGGTACTTCGGGAAAGGCTACATGGTGGTGTCCGGCTTGCAGCGGGCTTCTCCACCCCC  
CTCACGCAGAGTGCAGTCATGGGCCACCGCAGTGATGTGGAAGCATCGCCAAGCTCATCACCAGCTTCTGAGC  
TGCACTGCCCTTGAGAGCCCCACAGAGCTGTCTCAGAGCAGCGACAGTGAGGCCGGTGACCCTGCAAGCCAGAGCT  
GACAGCCCCACTGTGCCTGAGCCCGTGCACCGCCACAGGACCCATGGCACATTCCCGGTGTGCCTGAGCCCGTG  
CACCGCCACAGGACCCGTGGCACATTCCCGGTGTGCCTGAGCCCGTGCACCGCCACAGGACCCGTGGCACATT  
CCCGGTGTGCCTGAGCCCGTGCACCGCCACAGGACCCGTGGCACATTCCCGGTGTGCCTGAGCCCGTGCACCGC  
CCACAGGACCCGTGGCCTTGGCTTCAGTTGGTGCCTCCAGCCGAGTTGGCCTATTGCCTGCTCATGCTGCTGCTT  
GCACACTGCATGAAACAGCAGGCCAGACCAGGACATCCAGACTTCTCCATCGTGAGGCCCTGGGCCTGCCTTTCT  
GCAGCCGGAGGTCTCGCCAGCCCTGGACTCCTGCTTTGGGCCACAGCAAGACCTCGGGCGAGTGGAGAGGCGGGG  
CCAGGCCGGGCCCTTGTGGGTGCTGATGCTGCATGTTGTCCCCGACACAGCGTCCTCTCCCTGGTGGACATCCCC  
AGCGGTGAGGTGCTTCCCCAAGGGCAGTGAGGGGTGAACATCCAGGGCCTACCTGGCTGTGCACGCTGCAGCCAC  
ACTGTGGAAGCTGCCCCCTCCCCGAGGACCCGCCTCCCTTGCTGATGCCAGGATCTCAGCGCATAGACCACTCTGC  
CCCAGCGGTGCTCACAGAAAGGTCTCTCTGTTCTCACACTCAGCTTCAGCATAAGCTGTGAGGCCAGAAAAAAG  
GTCAGCTCTTCTAGTATCGTGCAGTGCTTAAAAACCGGGAGCTCCAGCCGGGCGCAGTGGTTTCATGCCAGTAATC  
CCAGCACTTTCGGAGGCCGAGGTGGGAGGATTGCTTGAGGCCAGGAGTTCAAGACCAGCCTGGGCAACACAGCAA  
GATCCTGTCTTTGTAAAAAACTAACCAAACAGGAAAACTGGGAGATTTTCTGCAGAAATTGAGTTCCAGCCTC  
TCTCGAACCTGGGAAGACCTGGCAGGAGGGGGCTGGGCTCTCGGCTACAGACTTCTCCCCACCCCGTAGGAGCTG  
AACGCCAACCATCCTGACCCGCCAGTGCTCTTGGTCTCCTGAGTGATACCCAGGTCCCTCCAGGTGCGGTGTGCAC  
CGAGCGCGCCTGGCCTGATGCCCTGGCCTGTGAGCTGGGGACTCCTGGGCCCTGTGAGCCCCCTAGGCGCAGGCCC  
AGGAATGGCTGGGTAGGACAGGGAACACCTTTGCCCCACGTCCTGGCTGTGACCTCGGTGAAAGCCGACAGGAGAG  
AGATGGACCCCTCCTCCTCAGTAGTGGCTGCCAGTCCCTCGTTGCAGGACAGGGTCATCATAACCATAAATAACCC  
TTCACGTGTC



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**FIGURE 5014**

GCGTCGGGGGAGGACAACAAAGGGCCGCGGGCGGGCGGGCAGTGGTGTCCCAGTCTCCCGGTGCTTCCCTGAGGCT  
GAGGCGCCCGGCTCCCGCCCGCGCGCTCCAGATGAAGTGTGAGCACTGCACGCGCAAGGAATGTAGTAAGAAA  
ACAAAAACTGATGACCAAGAGAATGTGTCAGCCGATGCACCGAGTCCAGCCCAGGAAAATGGAGAGAAGGGAGAA  
TTCCACAAGTTGGCTGATGCCAAGATATTTTTGAGCGACTGCCTGGCATGTGACAGCTGTATGACTGCAGAGGAA  
GGAGTCCAACTTTCCAGCAAAATGCCAAGGACTTCTTCCGCGTTCTGAACCTTAACAAGAAATGTGATACCTCA  
AAGCACAAGTGTCTGGTAGTGTCTGTGTGTCTCCTCAATCTTTGCCTTATTTTGCTGCTAAATTCAACCTCAGTGTA  
ACTGATGCATCCAGAAGACTCTGTGGTTTCTCCTCAAAAGTCTTGGGGTGCAGTATGTATTTGATACGACGATAGCT  
GCGGATTTTAGTATCCTGGAGAGTCAAAAAGAATTTCGTGCGTCGCTATCGCCAGCACAGTGAGGAGGAACGCACC  
CTGCCCATGCTGACCTCTGCCTGTCTGGCTGGGTCCGATACGCCGAGCGGGTGCTGGGTGCGCCCATCACTGCC  
CACCTCTGCACCGCCAAGTCCCCCAGCAGGTCATGGGCTCTTTGGTGAAGGATTATTTGCGCCAGACAGCAGAAC  
CTGTCTCCAGAGAAGATTTTCCACGTCAATTGTGGCCCTTGTATGACAAGAAGCTGGAGGCTCTTCAGGAAAGC  
CTTCCCCCTGCTTTGCATGGCTCCCGGGGCGCTGACTGCGTGTTAACATCAGAAATTAGCCAGGCGTGGTGGTGC  
ACACCTGTGATCACAGCTACTCGGGAGGCTGCGGCAAGAGAATCACTTGAACCCGGGAGGCAGAGGTTACAGCGA  
GACAAGATTGCACCACTGGACTCCAGCCTGGGCGGCGGAGGTGAAATTGCTCAAATAATGGAGCAAGGTGACCTC  
TCAGTGAGAGATGCTGCCGTCGACACTCTGTTTGGAGACTTGAAGGAGGACAAAGTGACGCGTCATGATGGAGCC  
AGCTCAGACGGGCACCTGGCACACATCTTCAGACATGCGGCCAAGGAGCTGTTCAACGAGGATGTGGAGGAGGTC  
ACTTACCGAGCCCTGAGAAACAAAGACTTCCAAGAGGTACCCCTTGAGAAGAACGGAGAGGTGGTGTACGCTTT  
GCTGCAGCCTATGGCTTTGAAACATCCAGAACATGATCCTGAAGCTTAAGAAGGGCAAGTTCCCATTCCACTTT  
GTGGAGGTCTCGCCTGTGCTGGAGGATGCTTAAATGGCAGAGGCCAAGCCCAGACTCCAGACGGACATGCGGAT  
AAGGCCCTGCTGCGGCAGATGGAAGGCATTTACGCTGACATCCCTGTGCGGCGTCCGGAGTCCAGTGACACAGTG  
CAGGAGCTGTACCAGGAGTGGCTGGAGGGGATCAACTCCCCCAAGGCCCGAGAGGTGCTGCATACCACGTACCAG  
AGCCAGGAGCGTGGCACACACAGCCTGGACATCAAGTGGTGAAGTCAGGCCAGGGCCTTCAGCTGCTCTTGGGG  
CCAGAGCCAAGAGCCTCTCAGTAGAGGGAGGGGCTGCCCTGAGTGGAGTATTAAAGACACTTAAGAAAACCGCTC  
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5015**

MKCEHCTRKECSKKTCTDDQENVVSADAPSPAQENGEGEFHKLADAKIFLSDCLACDSCMTAEEGVQLSQONAKD  
FFRVNLNLNKKCDTSKHKVLVSVCPQSLPYFAAKFNLSVTDASRRLCGFLKSLGVHYVFDTTIAADFSILESQKE  
FVRRYRQHSEEERTLPMLTSACPGWVRYAERVLGRPITAHLC TAKSPQQVMGSLVKDYFARQQNLSPEKIFHVIV  
APCYDKKLEALQESLPPALHGSRGADCVL TSEISQAWWCTPVITATREAAAARESLPGRQRLQORDKIAPLDSSLG  
GGGEIAQIMEQGDL\$VRDAAVDTLFGDLKEDKVTRHDGASSDGHLAHIFRHA AKELF NEDVEEV TYRALRNKDFQ  
EVTLEKNGEVVLRF AAAYGFRNIQNMILKLKKGKFFHFVEVLACAGGCLNGRGQAQTPDGHADKALLRQMEGIY  
ADIPVRRPESSAHVQELYQEWLEGINS PKAREVLHTTYQSQERGTHSLDIKW

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**FIGURE 5016**

CGTCAAGCTTGGCACGAGGCC**ATG**GAGCAGCTGCTGCGCGCCGAGCTGCGCACCGCGACCCTGCGGGCCTTCGGC  
GGCCCCGGCGCCGGCTGCATCAGCGAGGGCCGAGCCTACGACACGGACGCAGGCCCAGTGTTTCGTCAAAGTCAAC  
CGCAGGACGCAGGCCCGGCAGATGTTTGAGGGGGAGGTGGCCAGCCTGGAGGCCCTCCGGAGCACGGGCCTGGTG  
CGGGTGCCGAGGCCCATGAAGGTCATCGACCTGCCGGGAGGTGGGGCCGCCTTTGTGATGGAGCATTTGAAGATG  
AAGAGCTTGAGCAGTCAAGCATCAAACTTTGGAGAGCAGATGGCAGATTTGCATCTTTACAACCAGAAGCTCAGG  
GAGAAGTTGAAGGAGGAGGAGAACACAGTGGGCCGAAGAGGTGAGGGTGCTGAGCCTCAGTATGTGGACAAGTTC  
GGCTTCCACACGGTGACGTGCTGCGGCTTCATCCCGCAGGTGAATGAGTGGCAGGATGACTGGCCGACCTTTTTTC  
GCCCCGCACCGGCTCCAGGCGCAGCTGGACCTCATTGAGAAGGACTATGCTGACCGAGAGGCACGAGAACTCTGG  
TCCCGGCTACAGGTGAAGATCCCGGATCTGTTTTGTGGCCTAGAGATTGTCCCCGCGTTGCTCCACGGGGATCTC  
TGGTCGGGAAACGTGGCTGAGGACGACGTGGGGCCCATTATTTACGACCCGGCTTCCTTCTATGGCCATTCCGAG  
TTTGAAGTGGCAATCGCCTTGATGTTTGGGGGGTTCCCCAGATCCTTCTTCACCGCCTACCACCGGAAGATCCCC  
AAGGCTCCGGGCTTCGACCAGCGGCTGCTGCTCTACCAGCTGTTTAACTACCTGAACCACTGGAACCACTTCGGG  
CGGGAGTACAGGAGCCCTTCCTTGGGCACCATGCGAAGGCTGCTCAAG**TAG**CGGCCCTGCCCTCCCTTCCCCTG  
TCCCCGTCCCCGT

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**FIGURE 5017**

MEQLLRAELRTATLRAFGGPGAGCISEGRAYDTDAGPVFVKVNRRTQARQMFEGEVASLEALRSTGLVRVPRPMK  
VIDLPGGGAAFVMEHLKMKSLSQASKLGEMADLHLYNQKLREKLKEEENTVGRRGEGAEPQYVDKFGFHTVTC  
CGFIPQVNEWQDDWPTFFARHRLQAQLDLIEKDYADREARELWSRLQVKIPDLFCGLEIVPALLHGDLSGNSVAE  
DDVGPIIYDPASFYGHSEFELAIALMFGGFPRSFFTAYHRKIPKAPGFDQRLLLYQLFNLYLNHWNHFGREYRSPS  
LGTMRRLK

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**FIGURE 5018**

GACACTATCCGTGCGGCCAGGCGGAGACCCGGAGGACCGAAGCTTCCGGACGACGAGGAACCGCCCAACATGGCC  
TCGGAGAGTGGGAAGCTTTGGGGTGGCCGGTTTGTGGGTGCAGTGGACCCCATCATGGAGAAGTTCAACGCGTCC  
ATTGCCTACGACCGGCACCTTTGGGAGGTGGATGTTCAAGGCAGCAAAGCCTACAGCAGGGGCCTGGAGAAGGCA  
GGGCTCCTCACCAAGGCCGAGATGGACCAGATACTCCATGGCCTAGACAAGGTGGCTGAGGAGTGGGCCCAGGGC  
ACCTTCAAACCTGAACCTCCAATGATGAGGACATCCACACAGCCAATGAGCGCCGCCTGAAGGAGCTCATTGGTGCA  
ACGGCAGGGAAGCTGCACACGGGACGGAGCCGGAATGACCAGGTGGTCACAGACCTCAGGCTGTGGATGCGGCAG  
ACCTGCTCCACGCTCTCGGGCCTCCTCTGGGAGCTCATTAGGACCATGGTGGATCGGGCAGAGGCGAACGTGATG  
TTCTCTTCCCGGGGTACACCCATTTCAGAGGGGCCAGCCCATCCGCTGGAGCCACTGGATTCTGAGCCACGCCG  
TGGCACTGACCCGAGACTCTGAGCGGCTGCTGGAGGTGCGGAAGCGGATCAATGTCCTGCCCTGGGGAGGTGGG  
GCCATTGCAGGCAATCCCTTGGGTGTGGACCGAGAGCTGCTCCGAGCAGAACTCAACTTTGGGGCCATCACTCTC  
AACAGCATGGATGCCACTAGTGAGCGGGACTTTGTGGCCGAGTTCCTGTTCTGGGCTTCGCTGTGCATGACCCAT  
CTCAGCAGGATGGCCGAGGACCTCATCCTCTACTGCACCAAGGAATTCAGCTTCGTGCAGCTCTCAGATGCCTAC  
AGCACGGGAAGCAGCCTGATGCCCCAGAAGAAAAACCCCGACAGTTTGGAGCTGATCCGGAGCAAGGCTGGGCGT  
GTGTTTGGGCGGTGTGCCGGGCTCCTGATGACCCTCAAGGGACTTCCCAGCACCTACAACAAAGACTTACAGGAG  
GACAAGGAAGCTGTGTTTGAAGTGTGAGACACTATGAGTGCCGTGCTCCAGGTGGCCACTGGCGTCATCTCTACG  
CTGCAGATTACCAAGAGAACATGGGACAGGCTCTCAGCCCCGACATGCTGGCCACTGACCTTGCCTATTACCTG  
GTCCGCAAAGGGATGCCATTCCGCCAGGCCCACGAGGCCTCCGGGAAAGCTGTGTTTCATGGCCGAGACCAAGGGG  
GTCGCCCTCAACCAGCTGTCACTGCAGGAGCTGCAGACCATCAGCCCCCTGTTCTCGGGCGACGTGATCTGCGTG  
TGGGACTACGGGCACAGTGTGGAGCAGTATGGTGCCCTGGGCGGCACTGCGCGCTCCAGCGTCCGACTGGCAGATC  
CGCCAGGTGCGGGCGCTACTGCAGGCACAGCAGGCCTAGGTCCTCCACACCTGCCCCCTAATAAAGTGGGCGCG  
AG

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**FIGURE 5019**

GCGGACCCAGAGAGCCCTGAGCAGCCCCGCCGCTGCCGGCCTAGTTACCGTCATACCACGGGAGGAGCCGCAGC  
TGCCGCAGCCGGCCCCAGTCTCCATCACCGCAACCAATGAGCAGCAAGGCCGAGACCCAGCAGCCACCCGCCGCC  
CCCCGCTTTCCCCCCCACCGCCCCCTCCCGTCCCCCGCCGCCCGCCCTCAGCGCCGCCGACACCAAGCCCGG  
CACTACGGGCAGCTGCGCAGGGAGCGGTGGTCCGGGCGGCCTCACATCGGCGGCGCCTGCCAGCGTGGACAAGAA  
GGTCATCGCAGTGAAGGTTTTGGGAACAGTAAATGGTTCAATGTAAGGAACGGATATGGTTTCATCAACAGGAA  
TGACACCAAGGAAGATGTATTTGTACACCAGACTGCCATAAAGAATAACCCCAGGAAGTACCTTCGCAGTGTAGG  
AGATGAAGAGACTGTGGAGTTTGATGTTGTTGAAGGAGAAGAGGGTGCGGAGGCAGCAAATGTTACAGATCCTGG  
TGGTGTTCCAGTTCAAGGCAGTAAATATGCAGCAGATCGTAACCATTATAGACGCTATCCACGTCATAGGGGTCC  
TCCACGCAATTACCAGCAAAAATTACCAGAACAGTGAGAGTGGGGAAGACCGAGGGATCGGAGAATGCTCCCGA  
AGGCCAGGCCCAACAATGCCGGCCCTACCGCAGGCAAAGGTTCCACCTTACTACATGTGGAGACCCCTGTGGGTG  
TCGACCACAGTATTCCAGCCCTCCTGTGCAGGGAGAAGTGATGGAGGGTGCTGACAACCAGGGTGCAGGAGAACA  
AGGTAGACCAGTGAGGCAGAATATGTATCGGGGATATAGACCACGATTCCGCAGGGGCCCTCCTTGCCAAAGACA  
GCCTAGAGAGTACGGCAATGAAGAAGATAAAATCAAGGAGATGAGACCCAGGGTCAGCAGCCACCTCAACGTCGG  
TACCGCAGCAACTTCAATTACCAACGCAGATGCCAGAAAACCTAAATCACAAGATGGCAAAGAGACAAAATCA  
GCCAATCCACCAGCTGAGAATTCGTCTGCTCCCGAGGCTGAGCAGGGCGGGGCTGAGTAAATGCCGGCTTACCAT  
CTCTACCATCATCCGGTTTAGTCATCCAACAAGAAGAAATATGAAATTCAGCAATAAGAAATGAACAAAAGATT  
GGAGCTGAAGACCTTAAGTGCTTGCTTTTTGCCCCGTTGACCAGATAAATAGAACTATCTGCATTATCTATGCAGC  
ATGGGGTTTTTTATTATTTTTACCTAAATATGTCCTTTTTTGTTAATAACAAACGTGTTTTTTTTAAAAAGCCTTG  
TTTTTCTCAATACGCCTTTAAAGGTTTTTAAATTGTTTCATATCTGGTCAAGATGAGATTTTAAAGCACTTTATT  
TTTAATTTGTAATAAAAGTTTACAACCTTGATTTTTTCAAAAAAGTCAACAACTGCAAGCACCTGTTAATAAAGG  
TCTTAAATAATAATAATAAAAA

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**FIGURE 5020**

CCGCGCCACTTGGCCTGCCTCCGTCCCGCCGCGCCACTTCGCCTGCCTCCGTCCCCCGCCCGCCGCGCCATGCCT  
GTGGCCGGCTCGGAGCTGCCGCGCCGGCCCTTGCCCCCGCCGCACAGGAGCGGGACGCCGAGCCGCGTCCGCCG  
CACGGGGAGCTGCAGTACCTGGGGCAGATCCAACACATCCTCCGTGCGGCGTCAGGAAGGACGACCGCACGGGC  
ACCGGCACCCTGTGGTATTTCGGCATGCAGGCGCGCTACAGCCTGAGAGATGAATTCCCTCTGCTGACAACCAAA  
CGTGTGTTCTGGAAGGGTGTTTTGGAGGAGTTGCTGTGGTTTATCAAGGGATCCACAAATGCTAAAGAGCTGTCT  
TCCAAGGGAGTGA AAAATCTGGGATGCCAATGGATCCCGAGACTTTTGGACAGCCTGGGATTCTCCACCAGAGAA  
GAAGGGGACTTGGGCCCAGTTTATGGCTTCCAGTGGAGGCATTTTGGGGCAGAATACAGAGATATGGAATCAGAT  
TATTACAGGACAGGGAGTTGACCAACTGCAAAGAGTGATTGACACCATCAAAACCAACCCTGACGACAGAAGAATC  
ATCATGTGCGCTTGGAATCCAAGAGATCTTCCTCTGATGGCGCTGCCTCCATGCCATGCCCTCTGCCAGTTCTAT  
GTGGTGAACAGTGAGCTGTCCTGCCAGCTGTACCAGAGATCGGGAGACATGGGCCTCGGTGTGCCTTTCAACATC  
GCCAGCTACGCCCTGCTCACGTACATGATTGCGCACATCACGGGCCTGAAGCCAGGTGACTTTATACACACTTTG  
GGAGATGCACATATTTACCTGAATCACATCGAGCCACTGAAAATTCAGCTTCAGCGAGAACCCAGACCTTTCCCA  
AAGCTCAGGATTCTTCGAAAAGTTGAGAAAATTGATGACTTCAAAGCTGAAGACTTTCAGATTGAAGGGTACAAT  
CCGCATCCAAC TATTA AAAATGGAATGGCTGTTTAGGGTGCTTTCAAAGGAGCTCGAAGGATATTGTCAGTCTTT  
AGGGGTG GGGCTGGATGCCGAGGTAAAAGTTCTTTTTGCTCTAAAAGAAAAAGGAACTAGGTCAAAAATCTGTCC  
GTGACCTATCAGTTATTAATTTTTAAGGATGTTGCCACTGGCAAATGTA ACTGTGCCAGTTCTTTCCATAATAAA  
AGGCTTTGAGTTAACTCACTGAGGGTATCTGACAATGCTGAGGTTATGAACAAAGTGAGGAGAATGAAATGTATG  
TGCTCTTAGCAAAAACATGTATGTGCATTTCAATCCACGTACTTATAAAGAAGGTTGGTGAATTTACAAGCTA  
TTTTTGGAATATTTT TAGAATATTTTAAGAATTTACAAGCTATTCCCTCAAATCTGAGGGAGCTGAGTAACACC  
ATCGATCATGATGTAGAGTGTGGTTATGAACTTTAAAGTTATAGTTGTTTTATATGTTGCTATAATAAAGAAGTG  
TTCTGC

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**FIGURE 5021**

TAAAAACAGGGAATGACTCTACTAATGATGGGGTCAGCAGATGCTCTTCCAGAAGAACCCTCAGCCAAAACCTGTC  
TTCGTAGAAGACATGACAGAAGAACAGTTAGCATCTGCTATGGAGTTACCATGTGGATTGACAAACCTTGGTAAAC  
ACTTGTTACATGAATGCCACAGTTCAGTGTATTGTTCTGTGCCTGAACTCAAAGATGCCCTTAAAAGGTATGCA  
GGTGCCTTGAGAGCTTCAGGGGAAATGGCTTCAGCGCAGTATATTACTGCAGCCCTTAGAGATTTGTTTGATTCC  
ATGGATAAACTTCTTCCAGTATTCCACCTATTATTCTACTGCAGTTTTTGCACATGGCTTTCCACAGTTTGCC  
GAGAAAGGTGAACAAGGACAGTATCTTCAACAGGATGCTAATGAATGTTGGATACAAATGATGCGAGTATTGCAA  
CAGAAATTGGAAGCAATAGAGGATGATTCTGTAAAGAGACAGACTCCTCATCTGCATCGGCAGCGACACCTTCT  
AAAAAGAAAAGTTTAATCGATCAGTTCTTCGGTGTGAGTTTGAAACTACCATGAAATGTACAGAATCTGAAGAA  
GAAGAAGTCACCAAAGGAAAGGAAAATCAACTTCAGCTTAGCTGTTTTATCAATCAGGAAGTCAAGTATCTTTTT  
ACAGGACTTAAATTGCGACTTCAGGAAGAAATCACCAACAGTCTCCAACGTTGCAAAGAAAATGCCCTTGATATC  
AAATCTTCCAAGATCAGCCGGCTGCCTGCTTACTTGACCATTAGATGGTTTCGATTTTTTTTATAAAGAGAAGGAA  
TCTGTGAATGCCAAAGTTCTTAAGGATGTTAAATTTCTCTTATGTTGGATAATGATGAACTGTGTACACCAGAA  
CTTCAAGAGAAAATGGTGTCTTTTCGATCCAAATTCAAGGATCTAGAAGATAAAAAAGTGAATCAGCAGCCAAAT  
ACAAGTGACAAAAGAGTAGTCCCCAGAAAGAAGTTAAGTATGAACCTTTTTCTTTTGCTGATGATATTGGCTCC  
AATAATTGTGGATACTATGACTTACAAGCAGTACTAACACACCAGGGAAGGTCTAGTTCTTCAGGTCATTATGTA  
TCATGGGTGAAAAGGAAACAAGATGAATGGATTAAGTTTGATGATGACAAAGTCAGCATCGTAACACCAGAAGAT  
ATCTTACGGCTTTCTGGTGGTGGAGACTGGCATATCGCTTACGTTCTACTCTATGGGCCTCGCAGAGTTGAAATA  
ATGGAAGAGGAAAGTGAACAGTAATCTTCATTTTAGTATTTATGCTTAGATGTGAAAATAAATGTTATTTGTTGA  
TCATTTCTATAATCCAGAGCTTTAGAGGAAGACACATAGGTGGGTTTATGTTTACCTCATTGGAACAAAAGAG  
GACAGAAGCAGACCCTCTGTGCACCAACCTAAAAAATTACAGAGAAGAGAAAATTATCTTTGGATTGTGCTGCC  
CTATATAAAGGTGGCAGAAAGACATTTTTTAAAAAGCTTATTATTTCTTGCATTATTTTAAAAAGTTCAGAGTTGA  
AATGCCTTTCAACCATTTCTTCTGTGGTCATTTTCTTGCTGCCTTTTTACCCAAGATTAGCAGTCAGATGT  
TACTGCACACCTATTACCTATTATTGCTGTTCTTGCATGGTTCAAACCACCATTCTGTAGCCACCCATCCTTT  
GCCTTATCTAACAACATTTTTCCAGGAAGGTGGAAGGAAGTGTGCTCTCATTGTGTGACTCAGTGCTGCTG  
TCCATCCCATGGAACATGGGCACAATCAAGTATTTGTCCAGCCTATTGCAGGCTTTTCTGACTTTAAAAATAAA  
TTGTGATCAATAATAGTACCTTTGATTATACATTTATTATTGTGTCTCTCTCTGATGTACTGTGGATTGTACATT  
TAACTTTGGAATGGCTTTGTAATAATCAGTCTTAAGAAAATGTTGACAAGCTCTGGTTGCTTATTTTTAGAAAAT  
GAGGACATTTAATAATAATAAAAAAAGGGATTAATAGCTTTTGACCTCAAGTCTTTTGTCTTCTGAGTGTGG  
AGCTTGGCTGAAGACATGTTTAATACTGTACAATTTCTGAAGATGGTTATTAACACTGTGCTGTTAAGCATCCAT  
TAAAAATATGTTATCTTCTTTGCCTGCC



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**FIGURE 5022**

GGTATTCAGGAAGGAACACAATGTACCAAATGTAAAAATAACTGGGCACTGAAGTTTTCTATCATATTATTATAC  
ATTTTGTGTGCCCTTGCTAACAATCACAGTAGCCATTTTTGGGATATAAAGTTGTAGAGAAAATGGACAATGTCACA  
GGTGGCATGGAAACATCTCGCCAAACCTATGATGACAAGCTCACAGCAGTGGAAAGTGACCTGAAAAAATTAGGT  
GACCAAACTGGGAAGAAAGCTATCAGCACCAACTCAGAACTCTCCACCTTCAGATCAGACATTCTAGATCTCCGT  
CAGCAACTTCGTGAGATTACAGAAAAAACAGCAAGAACAAGGATACGCTGGAGAAGTTACAGGCGAGCGGGGAT  
GCTCTGGTGGACAGGCAGAGTCAATTGAAAGAACTTTGGAGAATAACTCTTTCCTCATCACCCTGTAAACAAA  
ACCCTCCAGGCGTATAATGGCTATGTCACGAATCTGCAGCAAGATACCAGCGTGCTCCAGGGCAATCTGCAGAAC  
CAAATGTATTCTCATAATGTGGTCATCATGAACCTCAACAACCTGAACCTGACCCAGGTGCAGCAGAGGAACCTC  
ATCACGAATCTGCAGCGGTCTGTGGATGACACAAGCCAGGCTATCCAGCGAATCAAGAACGACTTTCAAATCTG  
CAGCAGGTTTTTCTTCAAGCCAAGAAGGACACGGATTGGCTGAAGGAGAAAAGTGCAGAGCTTGCAGACGCTGGCT  
GCCAACAACTCTGCGTTGGCCAAAGCCAACAACGACACCCTGGAGGATATGAACAGCCAGCTCAACTCATTACA  
GGTCAGATGGAGAATCACCCTATCTCTCAAGCCAACGAGCAGAACCTGAAAGACCTGCAGGACTTACACAAA  
GATGCAGAGAATAGAACAGCCATCAAGTTCAACCAACTGGAGGAACGCTTCCAGCTCTTTGAGACGGATATTGTG  
AACATCATTAGCAATATCAGTTACACAGCCCACCACCTGCGGACGCTGACCAGCAATCTAAATGAAGTCAGGACC  
ACTTGCACAGATACCCTTACCAAACACACAGATGATCTGACCTCCTTGAATAATACCCTGGCCAACATCCGTTTG  
GATTCTGTTTTCTCTCAGGATGCAACAAGATTTGATGAGGTCGAGGTTAGACACTGAAGTAGCCAACCTATCAGTG  
ATTATGGAAGAAATGAAGCTAGTAGACTCCAAGCATGGTCAGCTCATCAAGAATTTTACAATACTACAAGGTCCA  
CCGGGCCCCAGGGGTCCAAGAGGTGACAGAGGATCCCAGGGACCCCCTGGCCCAACTGGCAACAAGGGACAGAAA  
GGAGAGAAGGGGGAGCCTGGACCACCTGGCCCTGCGGGTGAGAGAGGCCCAATTGGACCAGCTGGTCCCCCGGA  
GAGCGTGGCGGCAAGGATCTAAAGGCTCCCAGGGCCCCAAAGGCTCCCGTGGTTCCCTGGGAAGCCCGGCCCT  
CAGGGCTCCAGTGGGGACCCAGGCCCCCGGGCCACCAGGCAAGAGGGACTCCCCGGCCCTCAGGGCCCTCCT  
GGCTTCCAGGGACTTCAGGGCACCGTTGGGGAGCCTGGGGTGCTGGGACTCGGGGACTGCCAGGCTTGCCTGGG  
GTACCAGGCATGCCAGGCCCCAAGGGCCCCCGGCCCTCCTGGCCCATCAGGAGCGGTGGTGCCCTGGGCTGC  
AGAATGAGCAACCCAGCACCGGAGGACAATGGCTGCCCGCCTCACTGGAAGAACTTCACAGACAAATGCTACTA  
TTTTTCAGTTGAGAAAGAAATTTTTGAGGATGCAAAGCTTTTCTGTGAAGACAAGTCTTCACATCTTGTTTTTCAT  
AAACACTAGAGAGGAACAGCAATGGATAAAAAAACAGATGGTAGGGAGAGAGAGCCACTGGATCGGCCTCACAGA  
CTCAGAGCGTGAAAATGAATGGAAGTGGCTGGATGGGACATCTCCAGACTACAAAAATTGGAAAGCTGGACAGCC  
GGATAACTGGGGTTCATGGCCATGGGCCAGGAGAAGACTGTGCTGGGTGATTTATGCTGGGCAGTGGAAACGATTT  
CCAATGTGAAGACGTCAATAACTTCATTTGCGAAAAAGACAGGGAGACAGTACTGTCATCTGCATTATAACGGAC  
TGTGATGGGATCATATGAGCAAATTTTCAGCTCTCAAAGGCAAAGGACACTCCTTTCTAATTGCATCACCTTCTC  
ATCAGATTGAAAAAAAAAAGCACTGAAAACCAATTACTGAAAAAAAAATTGACAGCTAGTGTTTTTTACCATCCG  
TCATTACCCAAAGACTTGGGAATAAAATGTTCCCCAGGGTGATATGCTGATTTTCATTGTGCATGGACTGAA  
TCACATAGATTCTCCTCCGTCAGTAACCGTGCGATTATACAAATTATGTCTTCCAAAGTATGGAACACTCCAATC  
AGAAAAAGTTATCATTGGTCGTTGAGTTATGGGAAGAACTTAAGCATATACTGTGTAAACAGTGCCATACATTT  
CTAAATCCCAAGTGTAGGAAAAATATGCAGACATACAGATATATAGGCCAACTATTAGTAATAATATGAAATAT  
ACTTAAAGAGCTTTTAAACTTTGTATTTTGTACAAAATATTTGTCTTTTACAATTTTTTTCCTTTTTTTTTTT  
TTGTCATTTTACCGACATAATACATGGAGCCAAAGAAAACAATAATGGTACTAATAAAAACTCCTAGGGTTTCCT  
GTCAGATTTAATTCTACCCAGTGGCAAAGAATTTTTTCAATTGTGGCTTTAAAAAATAATTAAATATACATGTA  
TATATATAT

**FIGURE 5023**

[illegible]

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**FIGURE 5024**

MKRSSVSSGGAGRLSMQELRSQDVNKQGLYTPQTKEKPTFGKLSINKPTSERKVSFLFGKRTSGHGSRNSQLGIFS  
SSEKIKDPRPLNDKAFIQQCIRQLCEFLTENG YAHNVSMKSLQAPSVKDFLKIFTFLYGFCLCP SYELPDTKFEEE  
VPRIFKDLGYPFALSKSSMYTVGAPHTWPHIVAALVWLIDCIKIHTAMKESSPLFDDGQPWGEETEDGIMHNKLF  
LDYTIKCYESFMSGADSFDEMNAELQSKLKDLFNVD AFKLESLEAKNRALNEQIARLEQEREKEPNRLESRLRLK  
ASLQGDVQKYQAYMSNLESHSAILDQKLNLN EEIARVELECETIKQENTRLQNIIDNQKYSVADIERINHERNE  
LQQTINKLTKDLEAEQQKLWNEELKYARGKEAIETQLAEYHKLARKLKLIPKGAENSKGYDFEIKFNPEAGANCL  
VKYRAQVYVPLKELLNETEEEINKALNKKMGLED TLEQLNAMITESKRSVRTLKEEVQKLDDLYQQKIKEAEEED  
EKCASELESLEKHKHLLSTVNQGLSEAMNELDAVQREYQLVVQTTTEERRKVGNNLQRLLEMVATHVGSVEKHL  
EEQIAKVDREYEECMS EDLSENIKEIRDKEYEKKATLIKSSEE

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**FIGURE 5025A**

GAGAAGAAGTGGCAGGTGATGCTGAAGCGGGGAGAAGCGGCAGAGCCGGCCACACAGTGCAGGGGATGGAGACA  
GGTGCTGGGCTGGTCCTCCTGCAGCATCCTCAGTTGTTGGAGGGCAGTCATCCTCAGGCCGTACCCAGCCAGAGA  
AGAAAAAGAACAGTGTGAAGCCACGTGTGATAGCCGTCCAACATCGGCTCTTCCCTCCAATTACATTGTAGTTGA  
TTGTAGTCTCAAACCATGAATTATGTGGGACAGCTGGCTGGGCAGGTGATTGTCACTGTGAAGGAACCTCTACAAG  
GGCATTAAACCAGGCCACCCTCTCTGGGTGCATTGATGTCATCGTGGTACAGCAGCAGGATGGCAGCTATCAGTGT  
TCACCTTTTTCACGTTTCGGTTTGGAAAGCTGGGAGTCTGAGATCCAAAGAGAAAGTGATTGATATAGAAATCAAC  
GGCAGTGCAGTGGATCTTCACATGAAGTTGGGTGATAACGGAGAAGCTTTCTTTGTTGAGGAGACTGAAGAAGAA  
TATGAAAAGCTTCCTGCTTACCTTGCCACCTCACCAATTCTACTGAAGATCAGTTCTTTAAAGATATTGACACC  
CCTTTGGTGAAATCGGGTGGAGATGAAACACCATCTCAGAGTTTACACATCTCACACGCTCTTGGAAACAGAGACA  
ATTTTTACTCCAAGTTCTGTGAAAAAGAAAAACGAAGGAGAAAGAAATACAAACAGGACAGTAAGAAGGAAGAG  
CAGGCCGCATCTGCTGCTGCAGAAGACACATGTGATGTAGGCGTGAGCTCCGATGATGACAAGGGGGCCAGGCA  
GCACGAGGATCTTCAAATGCTTCTTGAAGAAGAAGAATGTAAAGAGCCTTTGCTCTTCCATTCTGGGGATCAT  
TACCCCTTATCTGATGGAGATTGGTCCCTTTAGAGACCACCTATCCCAGACAGCGTGTCTAAGAGTGATTCA  
GAGCTGGAGGTGAAACCTGCGGAGAGCCTGCTCAGATCAGAGTCTCACATGGAGTGGACGTGGGGCGGATTCCCA  
GAGTCCACCAAGGTTCAGCAAAAGAGAACGATCTGACCATCATCCTAGGACAGCTACAATTACACCATCAGAAAAAT  
ACTCATTTTTCGGGTAATTTCCAGTGAGGACAACCTCATCAGTGAAGTTGAGAAGGATGCTTCCATGGAAGACACT  
GTCTGTACCATAGTGAAGCCCCAAACCCAGAGCCCTGGGTACACAGATGAGCGACCCAACATCTGTGGCAGAGCTT  
CTCGAACCTCCTCTTGAGAGTACTCAGATTTCACTATGTTAGATGCTGACCACCTTCCCAACGCAGCCTTAGCG  
GAGGCGCCCTCAGAATCCAAACCGGCAGCTAAAGTAGACTCGCCGTCAAAGAAGAAAGGTGTTTCAAAAAGAAGC  
CAACACCAGGGACCTGATGATATTTACCTTGATGACTTAAAGGTCTAGAACCTGAAGTTGCAGCTCTTTATTTT  
CCTAAAAGTGAATCGGAGCCCGGTTCCAGGCAGTGGCCCGAGTCTGACACACTCTCTGGCTCCCAGTCCCCACAG  
TCCGTGGGAAGCGCAGCTGCAGATAGCGGCACCGAGTGCCTCTCAGATTCTGCCATGGACTTGCCTGACGTTACC  
CTCTCCCTTTGCGGGGGCCTCAGTGAATAATGGAGAAATTTCAAAGAAAAATTCATGGAGCATATCATTACTTAT  
CACGAATTTGCAGAAAACCTTGACTTATAGACAATCCTAACCTTGTAATAAGGATATATAATCGTTACTATAAC  
TGGGCTTTGGCAGCTCCCATGATCCTTAGCTTGCAAGTATTCCAGAAGAGCTTGCCCTAAGGCCACAGTTGAGTCC  
TGGGTGAAAGACAAGATGCCAAAGAAATCTGGTTCGCTGGTGGTTTTGGCGAAAGAGAGAAAGCATGACCAAACAG  
CTGCCAGAATCCAAGGAGGGAAAAATCTGAGGCACCGCCAGCCAGTGACCTGCCATCCAGCTCCAAGGAGCCGGCC  
GGTGCCAGGCCCGCCGAGAATGACTCCTCGAGTGACGAGGGATCACAGGAGCTCGAAGAATCCATCACAGTGGAC  
CCCATCCCCACAGAGCCCTGAGCCACGGCAGCACAACTTCATATAAGAAGTCTCTCCGCCTCTCCTCAGACCAG  
ATCGCAAAACTGAAGCTCCACGATGGCCCCAAATGATGTTGTGTTTAGTATTACAACCCAGTATCAAGGCACCTGT  
CGCTGTGCAGGGACCATTTACCTGTGGAACCTGGAATGACAAGATCATCATTTCTGATATTGATGGGACAATAACC  
AAGTCGGATGCTTTGGGACAGATTCTCCACAGCTGGGCAAAGACTGGACCCACCAGGGTATAGCAAAGCTCTAC  
CATTCCATCAATGAGAATGGCTACAAGTTTCTGTACTGCTCGGCTCGTGCCATCGGCATGGCCGACATGACCCGT  
GGCTACCTGCACTGGGTCAATGACAAGGGCACAATCTTGCCCCGGGGCCCCCTGATGCTGTCCCCCAGCAGCTTG  
TTCTCCGCCTTCCACAGAGAAGTGATAGAAAAGAAACCAGAGAAGTTCAAATTTAGTGTCTAAATGATATCAAG  
AATCTGTTTTGCCCCGTCTAAGCAGCCCTTCTATGCTGCCTTTGGAAACCGTCCAAATGATGTCTATGCCTACACA  
CAAGTTGGAGTTCCAGACTGTAGAATATTACCGTGAACCCCAAGGGTGAATTAATACAAGAAAGAACCAAAGGA  
AACAAGTCATCGTATCACAGGCTGAGTGAGCTCGTGGAGCATGTGTTCCCCCTTCTCAGTAAGGAGCAGAATTCC  
GTTTTTCCCTGCCCCGAGTTTTCAGCTCCTTCTGCTACTGGCGAGACCCGATCCCTGAAGTGGACCTGGATGACCTG  
TCTTGAGGCGGCACCTCAGTGGGTGGGCAGGGCTTGGTCCCCCTCCCCACAGCAAGGGAAGGCAGCTGGCTCTTC  
TGCTGACCTCAGATACCAGCCTTCCCCAGCGGGGACGGGTGCTTCTGGAGCTGGTCCCGCCATCCTCCTTTGCCCT  
TCCCAGGCCAGCTGCTCAGGCTCGGCAGGTCTGCAGCTCAGCTCCTGGAAGGAGAAGGGAGGAAGTGGGCTGGG  
GCTGGAGGCCTGGGATCCCTCCTTTGTGGGTGCGACACATGTTTCTGCTGTGAGCTGGGGCCTCCTTCCATTGC  
ATCATTTTTAAAGGAAGAAAAAGCAGCTAAAAAGAGTGGACCAAACACTGCACACAGTGAAGTGTTCAGTTT  
CCACTGGGCAGTTGAGGTGGCTTCTGTAACCAGGGCTGTCTTCAGATGTCAGGGTCCCTGAACTGCTGCGGGCCC  
AGTCAGTGATGCTGGCTGAAGCTGCCTGTGCAGTTTCTTCTCTGGTGCCTCATTTTCTGCTACACTGAAGGGG  
TCAGCTGCTCCAGTGGGCCAAGTTGGGCAGGACCCCCGCCCTGCAGGGCCCATGCACCAGAGCCACTGAGCCCA  
GTCCCATAAACCTGGCCCTCTTTGGGGAAAGATCCCCACAGAGCATCCTCCTCTCATCTGTGACAACCTCCACGAG

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**FIGURE 5025B**

CCCTTAATTTCTTAGTCCTCACCAGAAGAACAGGTCTCACAAGTATATATTTGATGTCTGTAATAAAAGTGGGAA  
GGTGGGTCTTAAACAGACCAAACCCCGCCCCGCCCAACAACCTCTGCTTTTAGGGAGGCCTCCGAAATGCAGA  
TAGGCGGTTGAGTGGGGTCCTGGGAAGAGCGCTGAATCCCTCTGCTTGCTGCCTGGTGTGGGCCTTTGGAAAGCA  
TCTTGCTTTGGGACAGGATTTCTAAAATTCTGTGATTAGATTGTGTCAGGGAAGCACAGTGAAGCTTGCTTAAAG  
GCACTGGCCAGCAGTGTGTGACTTTGGCTTTTGGGATCACACCCTGTAATCGGGCCCGTGGGAAGCAGCGTCAAAG  
AGGGGTCTTGGAGCTCCTATGGAGCAGACTGCCCCCGAGCAGTGTCCCCAGCCTAGCCCTGTGAGACCCCATGG  
GGACACGGGTGCCTATGTATTTTCACTAAAATATACATGGTAGCTCCATTTACTGATGCGGTTGTAATGAGCTCA  
CATCGTGTCTGAAGAGATGGCACCAGGGAAGGTGTGCCATAAGCTGCTCCAGAGCTTTTGGTATGCTGAGTGT  
GACAGAGCTGCACTCTTAACATCAAGAGAAGTGTGAGGAGCCAGAACCAACCCAGGCTTGGTCTCCATTGGC  
GAGAACACAGGACGTGGTGGTTTCTGAGCAGAGAGGGATCTGCAGATACAGGCTTGGCGCTCGGGGTGGTCTCGT  
GGCCAACCTTTTCATGCCCTGCCGTTGTAGTGGAACCTCTACATGTTTTAGTTTGCTTCACCTAAAATAATGCTG  
ATCTAGAGATAGAGAAAATAGGGGTGGTTATTTTTCCAGATTGGAGAGTTGAAAGTCCCTGACTGATTTAGCCAT  
TTTTCTAGTGCTTGTGCGGATGCAGAGACAATGTTGAAATCCCCTAAACACAGTTCTCAGTGGCAAAACCTAGGAA  
GGCTCATGTTCCAGAGAAGGGACCACATGAGCCTTCTCCCATGCAAAGCTTCCCCAGCTTAAATAGTTGATAA  
GGACTAATTGTTTAAATGAGTTTATTTATCTACAGTAGGTTAGGGATCCTGGGTTCTGTTTATATGAAGTTCTTCC  
CAGTTTGTGAATTCTAGTACAGCAGCCATGCAGCCACCTTATTTATAGATGCCATCTGTGTGCTCCTCTTGACTA  
CCTTCTATTTAGAGGAAGAATGAGAGCTTTGTGTGTTTAACTGAGCTTATAGTAGGACTTCTTTGCATATGTATG  
GTACTGAAAAATCTTAATATACATCTTTAATCCTTTTTAGGTTGTCTTTAAAGAGTTTTTGACTAGTTTCTTTT  
TCTTGACAGCTCTTCTCTTTGGACACATGGGCCCTTCTAGAGGGTTAGTCTAGGACCCGGCTCTCCTGGCCCTG  
TGTTGAGGGTAGCTGGTCCCTCTGTCCCTGTGTCTGCTAGCACTAGACTTTGTTGCTGCAGATTGATCCAGTGGG  
TACATAGGCTAATTAATGTGAGTCTTTTCCCTGTTTAAAGGAGTCCCTCTTGCTGAAAGTAGATGATTACTATT  
GCTGTAGTGTTAGGAAAGTATTAAGTTTGTGCTGAAATCCATTGCCATTTGGTACAAATGACATTTGTTCTTTC  
TGTGAAAGAGATGCCCTCGAGTGTGTTGTACACAAACCCTTAGGATGGTGAGTTGAAGCATCACCCCTCGCGCTA  
TCTTCAGTGACGGGTGACGGCTCAGGGAGATGGCAGGCAGATTGGGCTCTAAGTCATTATTCTCTCAGTTACTCC  
ATTGGTGAAATGGCCCTTCCCTCTTTGCAGTTCAGTCTAAGTCTCGTATTTGCTTTGCTGTCTGTGTGCTGAAG  
CTCGTCCCGTGTGAGTTGCTGTCTGCCCTTGTGAGGCTGTGAGGTGCTCGTGTAGACCTGGAGCATGCAGGCTG  
CCTCCGTTTTTGGGTACTGTGTTGTGTTTTGCTCTGTCTAAAAACATCTGCATAGTTTTCAACTGGAAAAAGAAA  
AAACTTAAAAATGGGATGTCCTAAAAATGAAAGCTGCTCAAAGTCACAGAACAACCGAGGGACAAAGGAGATTGGA  
TGACTGGGAAGCGCTGGCCCGGAACAGCCCCTGCAACTGTGGGGCCTGCACACAGCCCTTCCACAGTTGGCACTG  
CAGGTGCAGGCCAACCCCTTTAAAGAATAAAACAAGGAAGTCAGCTCTTTCACTTTTACAAGTTGGCAAAACAGA  
CTTCCGGGGAATTTTCGATGTTTTCCCGTGTGTAGAGCTTCCAGGGTTTAAATAAAACTGGTTAAAAATTGAGTCT  
TTCCCTGAAGTAAGTGCTCTTTCCAGATGAAAACCTACTCTTTTGGTTTTGTTTGAAGTAAGAAAGGGAGGGGAA  
ACTTTGCTCTTTTAAATAATTATGTTTCAGCCTATGATGAAGTATTTGATTATTAGACAGCAATGTCTACTAATAAGT  
TTTAAGTTGTCCAAAGTTAATTGTAAACATCATCAGTACAGTACTCTTAGTTACAGTAAAGCAATTGTTGCAAGA  
TGAATGGCTAATATTTTTGGTGCAGTGTGTTGATGTTCAAAACAAAATGTTACAACAATAAACGAACATAACAT

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**FIGURE 5026**

GAATTAAACAACCACCATGTCGAGCAAAAAGGCAAAGACCAAGACCACCAAGAAGCGCCCTCAGCGTGCAACATC  
CAATGTGTTTGCCATGTTTGACCAGTCACAGATTGAGGAGTTCAAAGAGGCCTTCAACATGATTGATCAGAACAG  
AGATGGCTTCATCGACAAGGAAGATTTGCATGATATGCTTGCTTCTCTAGGGAAGAATCCCCTGATGCATACCT  
TGATGCCATGATGAATGAGGCCCCAGGGCCCATCAATTTACCATGTTTCTTGACCATGTTTGGTGAGAAGTTAAA  
TGGCACAGATCCTGAAGATGTCATCAGAAACGCCTTTGCTTGCTTTGATGAAGAAGCAACAGGCACCATTGAGGA  
AGATTACCTAAGAGAGCTGCTGACAACCATGGGGGATCGGTTTACAGATGAGGAAGTGGATGAGCTGTACAGAGA  
AGCACCTATTGACAAAAAGGGGAATTTCAATTACATCGAGTTCACACGCATCCTGAAACATGGAGCCAAAGACAA  
AGATGACTGAAAGAACTTTAGCTAAAATCTTCCAGTTACATTGTCTTACTCTCTTTTACTTCTCAGACACTTCCC  
CCACCCTCATAGAACCTGTTGCATGCAACTTAGTTTTACAGCTTTGCCTCTTCTTTTTTGATGTATTTATTCCAGA  
CCTTTCTGCCACTTAGCACTTGTATAATCAGACTGGAAATGGGGATGAGGGTGTAATTGTATTGAAAAAGATCG  
CGAATAAAAAATCAACAAATGTGAAAGCCCAGAAAAATATATTCGTATTTCTGGTTTTGCTGGATTTTACATTTT  
TATATAATAAAAAATGTTATTTTGAAATAAAGATTATGCTGACTCAAATGCAATGT

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**FIGURE 5027**

GAATTAAACAACCACCATGTCGAGCAAAAAGGCAAAGACCAAGACCACCAAGAAGCGCCCTCAGCGTGCAACATC  
CAATGTGTTTGCCATGTTTGACCAGTCACAGATTCAGGAGTTCAAAGAGGCCTTCAACATGATTGATCAGAACAG  
AGATGGCTTCATCGACAAGGAAGATTTGCATGATATGCTTGCTTCTCTAGGGAAGAATCCCACTGATGCATACCT  
TGATGCCATGATGAATGAGGCCCCAGGGCCCCATCAATTTACCATGTTCCCTGACCATGTTTGGTGAGAAGTTAAA  
TGGCACAGATCCTGAAGATGTCATCAGAAACGCCTTTGCTTGCTTTGATGAAGAAGCAACAGGCACCATTCAGGA  
AGATTACCTAAGAGAGCTGCTGACAACCATGGGGGATCGGTTTACAGATGAGGAAGTGGATGAGCTGTACAGAGA  
AGCACCTATTGACAAAAAGGGGAATTTCAATTACATCGAGTTCACACGCATCCTGAAACATGGAGCCAAAGACAA  
AGATGACTGAAAGAACTT

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**FIGURE 5028**

AACCACCACCATGTCGAGCAAAAGAACAAGACCAAGACCAAGAAGCGCCCTCAGCGTGCAACATCCAATGTGTT  
TGCTATGTTTGACCAGTCACAGATTCAGGAGTTCAAAGAGGCCTTCAACATGATTGATCAGAACAGAGATGGTTT  
CATCGACAAGGAAGATTTGCATGATATGCTTGCTTCTTTAGGGAAGAATCCAACATGATGAGTATCTAGATGCCAT  
GATGAATGAGGCTCCAGGCCCCATCAATTTACCATGTTTCTCACCATGTTTGGTGAGAAGTTAAATGGCACAGA  
TCCTGAAGATGTCATCAGAAATGCCTTTGCTTGCTTTGATGAAGAAGCAACTGGCACCATACAGGAAGATTACTT  
GAGAGAGCTGCTGACAACCATGGGGGATCGGTTTACAGATGAGGAAGTGGATGAGCTGTACAGAGAAGCACCTAT  
TGATAAAAAGGGGAATTTCAATTACATCGAGTTCACACGCATCCTGAAACATGGAGCCAAAGACAAAGATGACTG  
AAATAACTTCAAATTCAGCCAAACGTTCTTTGTTGCCACTTTGGGTATTCTGAGATTTTCTCTTGCCATGCCCTT  
AGCTTTACAGCTTTTGCAATTCCTGTTGTATTTATTCTCAGCCATTTTGGGCATATGTATCTTTATAATCAGACT  
GGAAACGGGACTTTCTATTAATATCATTTTCAGAATAAAAAATAGGGTAATTTAACCTACCAGCCCTTCTCCCCC  
AATAACTGTGGTCTATACAGAGTCAATATATTTTTTCAGAGAAAGTTATTCGCTCGATTTTTTCTGAATCATAAT  
TAAACTTTATGATAAAATA



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**FIGURE 5029**

MSSKRTKTKTKKRPQRATSNVFAMFDQSQIQEFKEAFNMIDQNRDGFIDKEDLHDMLASLGKNPTDEYLDAMMNE  
APGPINFTMFLTMFGEKLNQTDPEDEVIRNAFACFDEEATGTIQEDYLRELLTTMGDRFTDEEVDELYREAPIDKK  
GNFNYIEFTRILKHGAKDKDD

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**FIGURE 5030**

ATGCACGCACACACGCATACAGACACCACACACGAGAGAGAGAGATACAAAAGCAGACCAGAGGCACCTTTTAGA  
CTGACACATGAGTGGATTTCGGAGTCTGCAGGTTGCAGCAGAGGAAACTGTGAGCTGGAGAGGCAACCTCATTCT  
AGCAGCGGCAGAGTTTTGGGGCCTCTTTGGAGACAGGGACGTGGGCACAGGGATCTAATGGAGACAGCCCATCAG  
CCTGCAGAAGGAACCAGGTCATTGGCCCTGGCAGATCCTTCTGCCCATAGCCTGCTATTGGGTTCTGATAACATC  
CAGGACTCAGGACTCAGCTTTGACTTTGCTTTTGGCTGCCCGTATTGAGACATGAACTGAAAAAGGAGGCAACA  
CTTCACGATCGTTTGAGAGAACAACACAGGCAAATTTGGAATCAGACTCTTCACATTCAAAATCAAAAAGCCTC  
TGTAAGTTTGAAGTTCAATGGAAAACATGAAAAGGTGAACAGTCAGCCCAGGCAAAAGGCAATCATGTTCAAGACC  
TTGAGCACCCCTAGACCCCTGACTGTGCAAGATTTGAAGGGACGACTGCTTCTCCTAAGCCTCAGAGCCTTGCTCTT  
TGCATTGAGCAGGATAATGAATCTAGATTTTATTTCTGTTCTTTGCCAGACTTGTACAGCAGGCAAAGTGTGTTG  
AAAATCAAAGGAAAAAGAAGATATTGACTTGGATAATCTCTTCAGAGAGGCCATGGAGGGAAACCAGGAGTGTCTC  
ACTGAACTTGTGAAGAAGCCACAGCCAAGCCCTGGGGCCCAGTCATCTGCAGCAGTGACCACTCCCCGGCAGGG  
AGTGCAGCCAATACAGACAGTGGTGTGGAATGACTGGCAATGCAGGGGGCAGCACTGAAGACCTCTCCAGCTTG  
GACGAGGGACCTTGCATTGCTGGCACTGGTCTGTCCACTCTTCGCCGCTTGAGAACCTCAGGCTGGACCAGCTA  
CATCAACTCCGGCCAATAGGGACCCGGGGTCTCAAAGTCCCAGCTTGTCACACCGGTGAGACCTGGGTGTGG  
GAGTGCTTGCCAAAGTTGCGGACTGCCAACCACAGCTGGTACTGTCCAGGGCCTGCCCTGAGCACACTGACATCT  
GCCCGTGCTGAAGATGCAAAGCCTGTTGCAGCAGGAGCTGCTGGCACCAGCCCTGATCATTCCCTCCTTTTGCAA  
TGCCTCAGCTCTTTTATTTCCATCTGTTGTTCTATGATAGGCTGCTCTCCCCACGTTTCTGATAATTATGGGGTA  
AAACCGGGAAGGCTGCAGACATCAGAGGAGAGCTCTATATTCTCCTACTTTAAAAATGTTGCCTAAGACAAGCAAC  
AAACTCAATGTACTTTGCCCTCTGAGAGAGCTCAGAATCCTTGTCCTCAGGAATCATGCGATCAATGCAAAGGAG  
CTCGCCATGATCGCCACCGGCGGCCTGCTAAGGATTTCCGCCAGAAAGCAGGATCCACTCCGCCCCCAAGCCAG  
ATACCCAAGCGCAAGCGGAAAGCCAAGAAGAGGCGCAAGAACGACGTGGTGGTGGTTAATGTGTTTGGAGCACTA  
AATACGACTTGA

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**FIGURE 5031**

AGAGCTTCTTTGAAGGGCAGTCTGCACCATGGGACTCGGCTAAGAAAGATGAGAACAGAATGAAGAACAGATACG  
GGAATATCATTGCATACGATCATTCCCGAGTGAGGCTGCAGACAATAGAAGGAGACACAACTCAGACTATATCA  
ATGGCAATTATATCGATGGTTATCATCGACCCAATCATTACATTGCTACCCAAGGGCCAATGCAGGAAACCATCT  
ATGACTTCTGGAGGATGGTGTGGCAGCAAAACACTGCAAGTATCATCATGGTGACCAATCTTGTGGAAGTGGGAA  
GGGTCAAATGCTGCAAATACTGGCCAGATGACACAGAGATATATAAAGACATTAAAGTTACCCTAATAGAAACAG  
AACTACTGGCAGAATATGTGATAAGAACATTTGCTGTTGAAAAGAGAGGTGTGCATGAAATCCGAGAGATCAGAC  
AGTTTCACTTCACTGGCTGGCCGGATCATGGGGTCCCCTACCATGCCACCGGCTGCTGGGATTCTGTCGGCAAG  
TCAAGTCCAAGAGCCCGCCAGTGCAGGCCACTGGTGGTGCAGTGCAGTGGTGCAGGGAGGACTGGCTGTT  
TCATCGTCATTGATATCATGTTGGACATGGCCGAAAGGGAAGGGGTCGTAGACATCTACAACCTGCGTCAGGGAGC  
TGCGGTACGGAGGGTGAACATGGTGCAAACAGAGGAGCAGTATGTGTTTATCCACGATGCGATCCTGGAAGCCT  
GTCTTTGTGGGGACACCTCTGTGCCTGCTTCCCAAGTTAGGTCTCTGTATTATGACATGAACAACTGGATCCAC  
AGACAACTCAAGCCAGATTAAAGAGGAATTCCGGACGCTAAACATGGTGACACCAACGCTGCGAGTAGAGGACT  
GCAGCATCGCACTGTTGCCCGGAACCATGAGAAAAACCGGTGCATGGACATCCTGCCCCAGACCGCTGCCTGC  
CCTTCCTCATCACCATCGATGGGGAGAGCAGCAACTACATCAATGCTGCCCTCATGGACAGCTATAAACAGCCTT  
CAGCTTTTATAGTCACCCAGCATCCTTTGCCAAACACAGTGAAAGACTTTTGGAGACTGGTCCTGGATTATCACT  
GCACATCCGTAGTTATGCTAAATGATGTGGATCCTGCCAGTTGTGTCCACAGTACTGGCCAGAAAACGGAGTAC  
ACAGACACGGCCCCATCCAGGTGGAATTTGTCTCTGCTGACCTGGAAGAGGACATCATCAGCAGGATATTCCGCA  
TTTACAATGCCGCCAGACCCCAAGATGGATATCGGATGGTGCAGCAATTCCAGTTCCTGGGCTGGCCGATGTACA  
GGGACACACCAGTGTCTAAGCGCTCCTTCTGAAGCTCATTGCCAGGTGGACAAGTGGCAAGAGGAGTACAATG  
GCGGGGAAGGCCGCACGGTTGTGCACTGCTTGAACGGGGGAGGCCGAGTGGGACGTTCTGCGCCATCAGCATCG  
TATGTGAGATGCTCCGGCACCAGAGAACCGTGGATGTCTTTCACGCTGTGAAGACACTGAGGAACAACAAGCCCA  
ACATGGTCCGACCTCCTGGATCAGTACAAGTTCTGCTACGAGGTGGCCCTGGAATACTTGAATTCTGGCTGATGGT  
GTAAACAGCTCTGCAAACAATCCCTTTCATACCACAAAGCCAAGACGTTCCATGGTATTTGTGCAAAAGAGATGA  
AGACTTCTCAATATGCTTATTTTGCTTTGCATAATTGGCTCTTTTTAAGAGCCCAAGAAAGTGTTCCTAAAATTG  
CTTGCACTGCCCAATCCAGTAATGCTGCTGCCTGACAGAAACACACACAGCCACAGTTGCCAAATCCCGTAC  
TCCTTGCCACCGGCTTCCTAGAGCAGCGTAGACAGCTGGTAAACTGAAGAGCACAACTATATTCTTATGAAGGAA  
TTTGTACCTTTGGGGTATTATTTTGTGGCCGTGACCCTCGTTATTGTTACAGCTGAGTGTATGTTTTTGTCTG  
TGGAGAATGCTATCTGGCATTATGGTAATATATTATTTTAGGTAATATTTGTACTTTAACATGTTGCATAATATA  
TGCTTATGTAGCTTTCAGGACTAACAGATAAATGTGTAATGAACAAAGATATGTTGTATGAGTCGTCGTTTCTG  
TCAGATTTGTATTGTTTCCAAGGGAAAAGCTTGGGGGAGGACTCAGTTCACAAAATGCAAACTCAACGATCAGA  
TTCACGGACCCAGAGCTTTTCCATGTGTTTATATTGTAAATATTTTTGATTTCATCAAATTATTTATTCTATTA  
AGAAATTTTTGTG

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**FIGURE 5032**

CGGAGGGTGGGGAGCGGAAAGCAGGACGCACGGCTCCCGCGGCCCCGCTGGCTGCCCTTCCCGCCAGCGCAGGTGT  
GGGACGGGCGGGCGGACTAGGCACAGAGCTGCGGGAGCAGGCACAGGGAGTGTGGAGCCTGGCGGCGGGACGGCGG  
GATCCGGTGGGAGCCGGAGTCCCGCCGAGGGGGGCTGGAGGTGGAGGGGCCCCGGCGAGGCCGCGATGAAGCCGAG  
CGGCGAGGACCAGGCGGCGCTGGCGGCCGGCCCCCTGGGAGGAGTGCTTCCAGGCGGCCGTGCAGCTGGCGCTGCG  
GGCAGGACAGATCATCAGAAAAGCCCTTACTGAGGAAAAACGTGTCTCAACAAAAACATCAGCTGCAGATCTTGT  
GACAGAAACAGATCACCTTGTGGAAGATTTAATTATTTCTGAGTTGCGAGAGAGGTTTCCTTCACACAGGTTTCAT  
TGCAGAAGAGGCCGCGGCTTCTGGGGCCAAGTGTGTGCTCACCCACAGCCCGACGTGGATCATCGACCCCATCGA  
CGGCACCTGCAATTTTGTGCACAGATTCCCGACTGTGGCGGTTAGCATTGGATTGCTGTTCGACAAGAGCTTGA  
ATTCCGAGTGATTTACCACTGCACAGAGGAGCGGCTGTACACGGGCCGGCGGGGTCGGGGCGCCTTCTGCAATGG  
CCAGCGGCTCCGGGTCTCCGGGGAGACAGATCTCTCAAAGGCCTTGGTTCTGACAGAAATTGGCCCCAAACGTGA  
CCCTGCGACCTGAAGCTGTTCCCTGAGTAACATGGAGCGGCTGCTGCATGCCAAGGCGCATGGGGTCCGAGTGAT  
TGGAAGCTCCACATTGGCACTCTGCCACCTGGCCTCAGGGGCCGCGGATGCCTATTACCAGTTTGGCCTGCACTG  
CTGGGATCTGGCGGCTGCCACAGTCATCATCAGAGAAGCAGGCGGCATCGTGATAGACACTTCGGGTGGACCCCT  
CGACCTCATGGCTTGCAGAGTGGTTGCGGCCAGCACCCGGGAGATGGCGATGCTCATAGCTCAGGCCTTACAGAC  
GATTAACATATGGGCGGGATGATGAGAAGTGACTGCGGCTGAGGCAAAGCTGCTCCCAAGGCCTCCCTGGGCTGCT  
GTGGGCTCCTGGGGAGGTGGCCCTCGTGGCCCACGCTCCATGCCAGTGGCTCACGCTCTGCTCCTGGCTACCCCA  
GAGGGAGTTGTCACGCTACAGTGAGTGGCTGGCCTTTTAAATCGACGTCTCTCTCACCAGGATTTGGTGTTTAGC  
TGTTTCTCTCTTTAATCTCACGTAGCCTTTTTTCAGGTTAGTACGTGTTCTTCTGTCAGGGCCAAAACCTCAAATCT  
CCTGTGAAATACGTATTGATAATCCAATCTTGATTTTTTCCCCCAGAATATAAATCTCAGGTAATAAGGCTTTAG  
AACTGCTGATAAAGCGGATCGTTCTCAGGCCCTCCCCCGGAGTACTTCAGAATGCAATAAATCAAATAATGGC

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**FIGURE 5033**

MKPSGEDQAALAAGPWEECFQAAVQLALRAGQIIRKALTEEKRVSTKTSAADLVTETDHLVEDLIISELRERFPS  
HRFIAEEAAAASGAKCVLTHSPTWIIDPIDGTCNFVHRFPTVAVSIGFAVRQELEFGVIYHCTEERLYTGRRGRGA  
FCNGQRLRVSGETDLSKALVLTEIGPKRDPATLKLFLSNMERLLHAKAHGVRVIGSSTLALCHLASGAADAYYQF  
GLHCWDLAAATVIREAGGIVIDTSGGPLDLMACRVVAASTREMAMLIAQALQTINYGRDDEK

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**FIGURE 5034A**

GGCACGATTCTGGGTACAGGTGATGAGGGATTTGAGGAATGGGGTAAACTTAAGAAGGTCCAAGAGCGGCAGTA  
CAACCCTTTGCCCATTGAATATCAGCTCACCCCTTATGAGATGTTAATGGATGACATTCGCTGCAAAAGATACAC  
CTTGCGAAAAGTGATGGTGAATGGTGATATTCCCCCTCGGTTAAAAAAGAGTGCTCATGAAATCATCTCGACTT  
CATCAGATCCAGACCTCCTTTAAATCCAGTCTCAGCCAGAAAACCTGAAACCAACTCCACCACGGCCACGGAGCCT  
CCATGAAAGAATATTAGAAGAAATTAAAGCAGAAAAGAAAGCTGCGGCCTGTATCACCAGAGGAGATTAGACGTAG  
CAGATTAGATGTGACTACCCCTGAATCTACAAAGAATCTTGTGGAGTCATCTATGGTGAATGGAGGTTTGACATC  
ACAAACAAAAGAAAACGGGTTAAGTACCTCACAGCAGGTGCCTGCACAGCGGAAGAAGCTCCTCAGAGCCCCAAC  
TCTGGCCGAACCTGGACAGCTCTGAGTCTGAGGAAGAAACGCTGCACAAGTCGACCAGCAGCAGCAGCGTGTCTCC  
CTCTTTCCCTGAAGAGCCAGTCTGAGGAGCCGTGTCCACAAGGAAGAAGCCTCCAAAATTCCTGCCCATATCATC  
AACACCCAGCCAGAGAGACGGCAGCCACCCAGAGACGACATTCCATTGAAAAGGAAACGCCTACTAACGTGAG  
GCAGTTTCTGCCGCTTCCAGGCAGAGTTCCTCGCTCTCTTGAGGAATTCTGCTACCCAGTGAATGCCTCGCTCT  
TACTGTGGAAGAAGTGATGCATATTCGCCAGGTCTCTGGTGAAGGCAGAGCTGGAAAAATACCAACAGTATAAAGA  
CATCTACACCGCCTTGAAAAAAGGAAAGCTCTGCTTTTGTGCGCAACCAGGAGGTTTTCTTCTTCACTTGCTC  
TTATACCTGTCAGTTCTGTAAGAGGCCGGTGTGCTCACAGTGTGCAAAAAGATGCGGCTGCCCTCCAAACCATA  
CTCCACTCTTCTATCTTTTTCATTGGGACCTTCTGCTCTGCAAGAGGGGAAAGTAGTATGAGGTGCAAAAAACC  
CTCCACTGCCATCATCGGCCACTTCGGAGCATTGCCAGGTTCTCTCAAAATCTAAGTCTATGGACAAATCAGA  
TGAAGAACTCCAGTTTCCCAAAGAGTTGATGGAGGACTGGAGCACCATGGAGGTGTGTGTGGACTGCAAGAAGTT  
CATTTTCGGAAATCATCAGTTCAAGCCGGCGCAGTCTGGTGTGGCCAACAAAAGGGCCCGATTGAAAAGGAAAC  
GCAGTCTTTCTACATGTCTCGCCAGGCCCTCGGAGTACTGCCCTTCAGAGAGGACGATCAGTGAGATCTGAGC  
CTCGTGCCCTTCAGCTGCTTTTGTGCTACGAGTCAGCGTCCGTGCGCGAGGACACTGAGCCGGGCTGGCTCTCCT  
TTCTGTGGTTTTATTTAATGGGCTTGAATTTGCATTAGATCAGATTTTTTGCCGCATCACATTGTTCCACAGACTG  
AATGCTGTGTTTCGTATCGATTGATGAAACGTGACAGGTCCGCCAATTGCTCGTTTGCACTGAGAGAGGACAACAG  
TTTGAAACTTACTTTTGTGTGTGTGGCTTTGGAAGCCAGTAGCTACTTCCCTTAGTTTCAGTTCTTTACTGTTCC  
TCGAATAATCTCCTGACTAAGGCAAAAAAAAAAGCTTCTCCTACGAGAATCAGTCTAACAGAGATGCCGATGTC  
AGCACAGCCCTAAGCAGTAAGTCATATTGGCATTTCACGTGACTGTGTTTCTATCCCGTGTACAGAGAGATCCA  
GAGCCCTACACTCCACGACCTGGGGGCTCACAGCACAGAACCTAGAAGCACCTGCTGACACTCTTCAACTGATTT  
TTAAATGTTGTTGCTTGGAGATAAAAAATTACATAAGGGACTTTTTGCGCTGCATTCTAGTGCAAAACATCTGAAGA  
GCTGTACACCCACAAGGGTGACTATTTCCCTGAGTGGCCGTGTTGTCCAGTGCCCTGGTTTCAGTGTCTCCTGA  
GTGGATGACAGGTCTTCATTCTCTATCTTGAATGTATTATGGTTACTAATAGTTTTATAATGGAGGTCTAAGAAT  
TAAAGTTGTGTGGGAGTTTTCAGGACAAAGGAAGGCTAAAAGTTTGTCAAGACGTTGAGCGTATTTTGGTTACCTA  
TGAGAAGGGTTGTGACAGTGTACAGTGGCAGCTGTTGGCCACGCTGCAGAAATGAGCTGGAGCTCATGGGTTTTTC  
AGCTACATTTTTTACATACTTTGTAGTACATCCATCTTGAGTAAATTAAGCCACAATTTGGTACCTAGGGTCTCAA  
ACTAAAATTTATTTTTATAAATGAATTTTAAAGAAAAAATATCTACTTCTTTTAAAGTTAGAAGAAAAATTAACC  
TGCTGACAGGCAACATTTTTGGGGTGCTTCTGCACTAGTTTTCTTGTAAATGATTTGAGTGAGTAGGTTTGGT  
TTCTGACGAAAGTAGACTGGAGGGTAGCATTGTATGCCTCAAATGTCTCAGTGTGTTTGGCTCATACGTGGGCTA  
TACTGTATTATTTGGTATGCTTACAAATGACTAACCAATCAAATTGTCATTAATGTTTGGAAAAATCTGTTAATG  
CACATGCACAATAATTTCTGAAAGCCATAGGACATGTCTGTAGTCAGCACCACGATAGCACCCTTCATGAAAG  
GCATGGCGGCTGCATTTATACCATCAAAATACAGTAACATTTCTATACTAAATTAACAGTAATACCTCAAAA  
CTGCTCCGGTAGTAGTTTTTAATGGATTGAAATTTACAGTTTAGTAAAAGGCTTAAATTACTTATACTTATGAA  
ATAAATTTTACCAGTTGACTAAAATAATGCATGTTAACAGTTGGTCTGTATTTGCATGTAAAAGTGGGCCACCAG  
AGAACCCTTATTGATTACTTAAGTGTTTACATTATTTTAAAGACTCCTGTTTAAAGACTTTTCAGAAATTGTACTGG  
GTGAATCTCATTTATAAACTTCCTAAGAGACTATCTGAACTCTATACTCCAGACAGTTAGGTGGGAGTATAAAT  
CTACCCCTTTTGTATGACCCAGGCTTGAGTTTTTAAATGACTACCCAGAAGGGCACAAGGGGGAAGGAAATGGT  
ATTTGTATATGTATATAAATATGCACCTAGGAGAATGTGCTTTTTTAAATAATGACTACTGTTTTTATTAAACA  
TAAGAACTACACCCCAAAATAAGACTTTTCATTACATTACAAAGCAAACATCTAGTACATGTCTTTCACCTC  
ACTTTATGATAGTGTATTGGATGATTTGGGCATTACGATCACCTCTTACCACAGCACAGAACATACATTCTTCAA  
CAGCATTAACGGAGTTTGCCAAGTGCATTAAAGAGGTACGTTGCATATGAAACAATCTGCAGAA  
AGTGGGGTAAGAAAGGGCACATGGCACAGTTAAAGTTGTAGAAATCAAATTACTATCATTTTTTGTGCCAAAAC

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**FIGURE 5034B**

AAAGTCTTACATTTAACCCCCCTTTCTACCACCCCCCTCCACACTTCACGTCAGCTACATAGTTTCCACAGGGTA  
ATTCACTAAGAGCTTGTGGAGCTTGGTTTTAAATCCTTAGCCTGGTCTGACTTTAGGCATAGCTTCCAGTTCTT  
CCTTCCGTGTCCTGGTTTCTTGTTCAGTTTTACTTCTAATCCAACAACAAAAGAAATGTCTGGCTGGTCTCAGCT  
AGAGTCTGATGTGTCTTAGAGCATGTGTGCGTATCTGAACCATCATCCCTGCTCTCATCTCAGCTCCCTCCAGGC  
CTGAGCACCGGTTCCTTTTGTCCCATACGTCATGAAGTCACACTATTGGGAAACCTGTGCTTCCCTCTCCATGGC  
TTAACTCCCTGTCAGTGTGCGAGTGTATAAGAATGCTTGTAATACTGTAATATATTTATTAATATTTGAAAGGC  
ATTCATTCAGTGGACAGTGGGAATTAACCTCTCCCAAGGCAAGTGAAAATGAATGATTGACGTACGTTGATTTAAC  
AATCTTACTAGATTTTAATTCTTAAGGATTTCAAATGAAACCAGAAGGTGGTTATGTAAGAGGCTTAAAATGATC  
TTATGTTTAAAGAGATTCTGTTATTAGCACCATGAACTCGTACTATGAAATTTTTAAGCCTTTTATTTTTCTAAC  
TATATTACTGTAGGACTGGATATTAGGTGTCATATAGGAAACACAAAAGTTTATTGCTGTTTGCTAAAGCAAAAT  
AGCAGAAAATTTTGTATATGCAAACTGTTGAAGGACCATAGAGAAATGTGTACTACTGACGGGGCTTTTACTAG  
GCTTCCTGCGTGTGTAAAAGTCGAGGTATTGCTGGCATTACAGGGTGACATGATGGTACTAAATGTTTTCCATTAA  
AGTCTTCTATTTTAAAATTTAGAGAAAAATAAAATGGCTTTCCATCAG

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**FIGURE 5035**

MRDLRNGVKLKKVQERQYNPLPIEYQLTPYEMLMDDIRCKRYTLRKVMVNGDIPRLKKSAAHEIILDFIRSRPPL  
NPVSARKLKPTPPRPRSLHERILEEIKAEKLRPVSPEEIRRSRLAMRPLSMSYSFDLSDVTTPESTKNLVESM  
VNGGLTSQTKENGLSTSQQVPAQRKKLLRAPTLAELDSSESEEEETLHKSTSSSSSVSPSFPEEPVLEAVSTRKKPP  
KFLPISSTPQPERRQPPQRRHSIEKETPTNVRQFLPPSRQSSRSLEEF CYPVECLALTVEEVMHIRQVLVKAELE  
KYQQYKDIYTALKKGKLCFCCRTRRFSFFTWSYTCQFCKRPVCSQCCKKMRLPSKPYSTLP IFSLGPSALQORGES  
SMRSEKPSTAHHRPLRSIARFSSKSKSMDKSDEELQFPKELMEDWSTMEVCVDCKKFISEI ISSRRSLVLANKR  
ARLKRKTQSFYMSSPGPSEYCPSERTISEI



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**FIGURE 5036**

TTCITTTCTTGCCGTGCCGATAGCGCTCACGCAAGCATGGTTAACGTCCCTAAAACCCACCAGACTTTCTGTAAGA  
AGTGTGGCAAGCACCAACCCACAAAGTGACACAGTACAAGAAGGGCAAGGATTCTCTGTATGCCCAGGGAAAGT  
GGCGTTATAACAGGAAGCAGAGTGGCTATGGTGGGCAGACTAAGCCGATTTTCCAGAAAAAGGCTAAAAC TACAA  
AGAATACTGTGCTAAGGCTTGAGTGC GTTGAGCCCAACTGCAGATCCAAGAGAATGCTGGCTATTAAAAGATGCA  
AGCATTTTGA ACTGGGAGGAGATAAGAAGAGAAAGGGCCAAGTGATCCCGTTCTAAGTGT CATCTTTTATTATGA  
AGACAATAAAA

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**FIGURE 5037**

GGCACGAGGCAGACCATGAGGTTTAACTGAGTGAACACCGCTGTTCCGGGGCTCTGCCTCTCGCTGAACGCTCCT  
GCTGGGCTGGGGCCTCCCGAGTAGCTGGAAGTACAGATAATCACAGCTGGCTTATCAATATTGCTGTTTGATGCG  
ATCCTGACCAGTGCAACCACGGGATGCCTCCTGCTCGGTGCGCTTGGAGAGGCCTTGCTGGTTTTCTCAGAGCGG  
AAGAGCTCCTGAACAAGACGGTCAAGAGAAAGACTCACAGGCTGCTGCGGGAGAACAGCTTGACACCTGTGTAC  
GAGCCCTGGTCTCATAGCTCCCTGTTGGATGTGTCAGAAAGAGGAATGCAAGGACAGTGAGGCCAGGTGGGCAG  
TGCCATCACCTCACCCAAGTGAATGTGGTGGTGGCTGATGAGGCCGAGGCCCTGGTGCTTCAAGGAGCACCTT  
TCTGGGGTCTGCAGGTCAGTGCAGAGGAGCGGTCTGTTACATCTTCCATTTGGAGAACCTCTCTCAACCGTGC  
TGTAAGCTGGTTCTGCAGAAACAGGAAGTACAGGATTTTATGGGCTGGCTCTGCTCGCCTCGACTGAGCTTCACAC  
CTCTGGATGCCACATGCTCTCTCCCAAACACTGCTTTCAGTGCAAGGTAGTGGGCCTAAGGGGTTTTGGTTGTCT  
TTTTTTTTTTTCATTTTTAAAATTTTAAATTTTTATTTATTATTATTTTTTAGAGACAAGGCCTCGCTCTATCGC  
CTAGGCTGAAGCACAGTGGTGGCATCACAGCTCGCTGCAGCCTTGACCTCCTAGGATCAAGCCATCCTCCTGCC  
CAGCATCCACAGTAGCTGATGTGCACCACCAGACCCGTCTCATTTTTTCTATTTTTATTATTTTAGAGATGGGGA  
TCTCACTGTGTTGGCCAGGCTGGTCTCAAACCTCTGGGCTCAAGCAATCCTCCACCTTGGCCTCAAAGTATTGA  
GATTACAGGCATGAGCCACTGCACCCGGCCTTTCTCATTTTTATTTTTAAATTGACAGACGTAACAGTGCGCATT  
TATCACGCACAACACAATGCTTTGGGAATGGTTAAATCTAGCTCACAAATGCATTACCTCACACGGTTGTCAATT  
TTGTGGTGAGGCTTGGTTGTATGTTTTGTTTCATTATGTTTTTACATCCTTGGAGTCTCCTCTGGGTCCGTCCT  
TTCTTTGCTGTCATGCTGGCTTGCCTAAGGCCACCGCCACCTGCGTACGAGCATTTTTAACTCTAGAGTGAGTG  
ACAGCCTTTTTATGGTTGGTGTACTATTTATTTCCCTGCCTCTAAACTTCTCGTGGTCCTTATAAACTTGTGAGG  
ATGTGTGTTGCGTTGAATTCTGCATGTCTTTTTTTGCCCACCCTCAGGTTAAGCTGGTACTAACTTATCCCCAG  
AGGAAACAGGGTTTATGAGCACTGACAGATGTCTTCCCTGGGCAAAAAAAAAAAAAAAAAATAGTATATGTATACAC  
ACACACATACACATTTATATTTATATTTCTTAAAGCTTTTAAATCCCTTTCATTCCCTGATATCTCAGAGATTTCA  
AATCATTGAACACTGAAGTATATTTTTTCAGGCCAGATGAAAAATTGTATTAAACCCTATTCTGCTCAGGCGCA  
GTGGCTCACGCCTATAATCCCAGCACTTTGGGAGGCCGAAGTAAGCAGATCACCTGAGGTCGGGAGTTCAAGACA  
AACCTGGCCAACATGGTGAAACCCTGTCTCTACTAAACTACAAAAAATTAGCCTGATGTGGTGTGTGTGCCT  
GTAGTCCCAGCTACTTAGGAGGCTGAGGTAGGAGAATTGCTTGAACCTGGGAGGCGGAGGTTGCAGTGAGCCAAA  
ATTACGCCACTGCACTCCAGCCTGGGCAACAGAGCGAGACAGTCTCAAAAACAACAACAACAACAAAAACCCTAT  
TCCTTGCCCTTTGTAGGAGTCAAAATAAATGAACCTCTTTTTTCTTTTTTTTATTATTATACTTTAAGTTCTGGGG  
TACACGTGCAGAATGTGCAGGTTTGTACATAGGTATGCACGTGCCATGGTGGTTTGCTGCACCCATCAACCTGT  
CACCTACATTAGGTATTTCCCCTAATGTTATCCCTCCCCTAGCCCTCCATCCCCTGACAGGCCCTGGTGTGTGAT  
GTTCCCCTCCCCTATGTCCATGTGTTCTCATTGCTCCAAATAAATGAATTTACACAAAAAAAAAAAAAAAAAAAA  
AAAAAAAAAAAA

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**FIGURE 5038**

MPPARCAWRGLAGFLRAEELLNKTVKRKTHRLRENSLYTCVRAPGLIAPCWMCOKEECKDSEARWAVPSPSPK

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**FIGURE 5039**

GAATTCccccccccccccagtgctccgcgcgctcttgacgtccggagcccctggagtaggcgcttccggccatt  
catactgcagtcgggtcagtggttcgggttgaaaggattctgtgtgctgtcggaccagaggggtgacggcgccgctagg  
atgaagctcgtgagatTTTTGATGAAATTGAGTCATGAAACTGTAACCATTGAATTGAAGAACGGAACACAGGTC  
CATGGAACAATCACAGGTGTGGATGTCAGCATGAATACACATCTTAAAGCTGTGAAAATGACCCTGAAGAACAGA  
GAACCTGTACAGCTGGAAACGCTGAGTATTCGAGGAAATAACATTCCGGTATTTTATTCTACCAGACAGTTTACCT  
CTGGATACACTACTTGTGGATGTTGAACCTAAGGTGAAATCTAAGAAAAGGGAAGCTGTTGCAGGAAGAGGCAGA  
GGAAGAGGAAGAGGAAGAGGACGTGGCCGTGGCAGAGGAAGAGGGGGTCTAGGCGATAATGTCTCTCAAGATT  
CAAAGTCATATGAGATTTGGGATATTTTTGTACAGGTTGTGTTTGTATGTTCAGTTTTTAATAAACATAAATG  
TGGGACAGAGCTGTCTATTTAGTATATCAAAGTTTGTAGTTCCTCCACATTCACGAAATTACCACAGTGAGA  
GCTAAGCATTTCTACTGGGCAGTTTCATTTTTAGTTGATCAGGTTTTAAGTTTTTGAATAAAATTTTTCTTTTT  
CTTTTTATGATGAATAAGGTTAAAATAAAAGCCTTAGACAAATTAAATTTGGCAGAGTTTAATTGAGCAAAGGAC  
AATTCACAAATCAGGTAGCCCCTGAACCATAATAGGCTCAGAGGCTTCAGCCCAGCTGCATAGTTGAAGATTTAT  
GGACAGAAGGAAAGTGATGTATGGAAAATGGAAGTGAGATACAGCAACAGCCGGATTAGTTACAGTTCAGCGTTT  
GCCTTATTTGAATATGGTTTGAACAGTTCGCTGTCTTTGGTTGGCTGAAACTTAGTGATTGCCACAAGAGTAGGG  
TACCGTCTGTTTACACGTCCAGTTAGGCTACAGTTCATGTACTGAGAAACCTTTAAGCTGAACTTGAGATATGT  
AAAGAGACTTTAGGCTAACTTAACAATATATATAGGAATATATCCCTTCTACTTCACATGCACTGAATATGCAT  
TTTATTGCTTTACTCTTCATTCTGTGGCACCTACCCACAGGGGAAGTAAGAAGTTTGTGTTTGGTATTTTCGGAAAC  
TAAAGTCCTTATGGGATGGGGTCTAGAATTGATTCTCCTTTCTGAGTTTTACTCCACGGAGTCTTAGGTACCTG  
GTAAAAAGTTGTCTTCTAAATTAAGGGTCATTGCTTTGTTGTCTAGCTGCTAATGTCTTACTTTTGTCTTTTG  
CTTTTTAATCAGTTCTTAATAGGATATAGTTTTATGTTTTCCAAGTTATAACTTGGAGTTAATGGTCACTAGATT  
ATCAGTTATGAGCAGTGTTAAATCTCCTATTAATGTGTAATGTACCTGTCAGTGCCTCCTTTATTAAGGGGTTT  
TTTGAGAATAAAAGAGAAAAGACCTACTTTATTTGACAGCAAAAAAAAAAAGGAATTC

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**FIGURE 5040A**

**AT**GGGATGGCTGTGGATCTTTGGGGCAGCCCTGGGGCAGTGTCTGGGCTACAGTTCACAGCAGCAAAGGGTGCCA  
TTTCTTCAGCCTCCCGGTCAAAGTCAACTGCAAGCGAGTTATGTGGAGTTTAGACCCAGCCAGGGTTGTAGCCCT  
GGATACTATCGGGATCATAAAGGCTTGTATACCGGACGGTGTGTTCCCTGCAATTGCAACGGACATTCAAATCAA  
TGCCAGGATGGCTCAGGCATATGTGTTAACTGTCAGCACAAACCCGCGGAGAGCACTGTGAACGCTGCCAGGAG  
GGCTACTATGGCAACGCCGTCCACGGATCCTGCAGGGCCTGCCCATGTCTCACACTAACAGCTTTGCCACTGGC  
TGTGTGGTGAATGGGGGAGACGTGCGGTGCTCCTGCAAAGCTGGGTACACAGGAACACAGTGTGAAAGGTGTGCA  
CCGGGATATTTCCGGGAATCCCCAGAAATTCGGAGGTAGCTGCCAACCATGCAGTTGTAACAGCAATGGCCAGCTG  
GGCAGCTGTCTATCCCTGACTGGAGACTGCATAAACCAGAACCACAAAGATAGCAGCCCTGCAGAAAGATGTGAT  
GATTGCGACAGCTGTGTGATGACCCTCCTGAACGACCTGGCCACCATGGGCGAGCAGCTCCGCTGGTCAAGTCT  
CAGCTGCAGGGCCTGAGTGCCAGCGCAGGGCTTCTGGAGCAGATGAGGCACATGGAGACCCAGGCCAAGGACCTG  
AGGAATCAGTTGCTCAACTACCGTTCTGCCATTTCAAATCATGGATCAAAAATAGAAGGCCTGGAAAGAGAACTG  
ACTGATTTGAATCAAGAATTTGAGACTTTGCAAGAAAAGGCTCAAGTAAATTCCAGAAAAGCACAAACATTAAAC  
ACAATGTTAATCGGGCAACACAAAGCGCAAAGAAGCTGGATGTGAAGATTAAAAATGTCATCCGGAATGTGCAC  
ATTCTTTTAAAGCAGATCTCTGGGACAGATGGAGAGGGAAACAACGTGCCTTCAGGTGACTTTTCCAGAGAGTGG  
GCTGAAGCCCAGCGCATGATGAGGGAAGTGCAGAACAGGAAGCTTTGGAAAGCACCTCAGAGAAGCAGAAGCTGAT  
AAAAGGGAGTCGCAGCTCTTGCTGAACCGGATAAGGACCTGGCAGAAAACCCACCAGGGGGAGAACAATGGGCTT  
GCTAACAGTATCCGGGATTCTTTAAATGAATACGAAGCCAAACTCAGTGACCTTCGTGCTCGGCTGCAGGAGGCA  
GCTGCCCAAGCCAAGCAGGCAAAATGGCTTGAACCAAGAAAACGAGAGAGCTTTGGGAGCCATTCAGAGACAAGTG  
AAAGAAATAAATTCCTGCAGAGTGATTTACCAAGTATCTAACCCTGCAGACTCATCTTGTGTGCAACCAAC  
ATTGCGCTGCAGCTGATGGAGAAAAGCCAGAAGGAATATGAAAAATTAGCTGCCAGTTTAAATGAAGCAAGACAA  
GAACTAAGTGACAAAAGTAAGAGAACTTTCCAGATCTGCTGGCAAACATCCCTTGTGGAGGAGGCAGAAAAGCAC  
GCGCGGTCTTTACAAGAGCTGGCAAAGCAGCTGGAAGAGATCAAGAGAAAACGCCAGCGGGGATGAGCTGGTGCGC  
TGTGCTGTGGATGCCGCCACCGCCTACGAGAACATCCTCAATGCCATCAAAGCGGCCGAGGACGCAGCCAACAGG  
GCTGCCAGTGATCTGAATCTGCCCTCCAGACAGTGATAAAGGAAGATCTGCCAAGAAAAGCTAAAACCTGAGT  
TCCAACAGTGATAAACTGTTAAATGAAGCCAAGATGACACAAAAGAAGCTAAAGCAAGAAGTCAGTCCAGCTCTC  
AACAACTACAGCAAACCTGAATATTGTGACAGTTTCAGAAAAGAAGTGATAGACACCAATCTCACAACCTCTCCGA  
GATGGTCTTCATGGGATACAGAGAGGTGATATTGATGCTATGATCAGTAGTGCAAAGAGCATGGTCAGAAAGGCC  
AACGACATCACAGATGAGGTTCTGGATGGGCTCAACCCCATCCAGACAGATGTGGAAAGAATTAAGGACACCTAT  
GGGAGGACACAGAACGAAGACTTCAAAAAGGCTCTGACTGATGCAGATAACTCGGTGAATAAGTTAACCAACAAA  
CTACCTGATCTTTGGCGCAAGATTGAAAGTATCAACCAACAGCTGTTGCCCTTGGGAAACATCTCTGACAACATG  
GACAGAATACGAGAATAATTACGACAGGCCAGAGATGCTGCCAGTAAGGTTGCTGTCCCCATGAGGTTCAATGGT  
AAATCTGGAGTCGAAGTCCGACTGCCAAATGACCTGGAAGATTGAAAGGATATACATCTCTGTCTTGTCTCTC  
CAAAGGCCCAACTCAAGAGAAAATGGGGTACTGAGAATATGTTTGTGATGTACCTTGGAAATAAAGATGCCTCC  
CGGGACTACATCGGCATGGCAGTTGTGGATGGCCAGCTCACCTGTGTCTACAACCTGGGGGACCGTGAGGCTGAA  
CTCCAAGTGGACCAGATCTTGACCAAGAGTGAGACTAAGGAGGCAGTTATGGATCGGGTGAAATTTTCAGAGAATT  
TATCAGTTTGCAAGGCTTAATTACACCAAAGGAGCCACATCCAGTAAACCAGAAAACACCCGGAGTCTATGACATG  
GATGGTAGAAATAGCAATACACTCCTTAATTTGGATCCTGAAAATGTTGTATTTTATGTTGGAGGTTACCCACCT  
GATTTTAAACTTCCCAGTCGACTAAGTTTCCCTCCATACAAAGGTTGTATTGAATTAGATGACCTCAATGAAAAT  
GTTCTGAGCTTGTACAACCTTCAAAAAACATTCAATCTCAACACAACCTGAAGTGGAGCCTTGTAGAAGGAGGAAG  
GAAGAGTCAGACAAAAATTATTTGAAGGTACGGGCTATGCTCGAGTTCCAACCTCAACCACATGCTCCCATCCCA  
ACCTTTGGACAGACAATTACAGACCACCGTGATAGAGGCTTGCTGTTCTTTGCAGAAAACGGGGATCGCTTCATA  
TCTCTAAATATAGAAGATGGCAAGCTCATGGTGAGATACAACTGAATTTCAGAGCTACCAAAAGAGAGAGGAGTT  
GGAGACGCCATAAACAACGGCAGAGACCATTGATTTCAGATCAAAATTGGAAAACCTCAAAAGCGTATGTGGATA  
AATGTGGACGTTCAAAACACTATAATTGATGGTGAAGTATTTGATTTTCAGCACATATTATCTGGGAGGAATTCCA  
ATTGCAATCAGGGAAAGATTTAACATTTCTACGCTGCTTTCCGAGGCTGCATGAAAAATTTGAAGAAAACAGT  
GGTGTCTGTTAGATTGAATGATACTGTGGGAGTAACCAAAAAGTGCTCGGAAGACTGGAAGCTTGTGCGATCTGCC  
TCATTCTCCAGAGGAGGACAATTGAGTTTCACTGATTTGGGCTTACCACCTACTGACCACCTCCAGGCCTCATT  
GGATTTTCAGACCTTTCAACCCAGTGGCATATTATTAGATCATCAGACATGGACAAGGAACCTGCAGGTCACTCTG

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**FIGURE 5040B**

GAAGATGGTTACATTGAATTGAGCACCAGCGATAGCGGCGGCCCAATTTTTAAATCTCCACAGACGTATATGGAT  
GGTTTACTGCATTATGTATCTGTAATAAGCGACAACCTCTGGACTACGGCTTCTCATCGATGACCAGCTTCTGAGA  
AATAGCAAAAGGCTAAAAACACATTTCAAGTTCCCGGCAGTCTCTGCGTCTGGGCGGGAGCAATTTTGAGGGTTGT  
ATTAGCAATGTTTTTGTCCAGAGGTTATCACTGAGTCCTGAAGTCCTAGATTTGACCAGTAACTCTCTCAAGAGA  
GATGTGTCCCTGGGAGGCTGCAGTTTAAACAAACCACCTTTTCTAATGTTGCTTAAAGGTTCTACCAGGTTTAAAC  
AAGACCAAGACTTTTTCGTATCAACCAGCTGTTGCAGGACACACCAGTGGCCTCCCCAAGGAGCGTGAAGGTGTGG  
CAAGATGCTTGCTCACCCTTCCAAGACCCAGGCCAATCATGGAGCCCTCCAGTTTGGGGACATTCCCACCAGC  
CACTTGCTATTCAAGCTTCCTCAGGAGCTGCTGAAACCCAGGTACAGTTTGCTGTGGACATGCAGACAACATCC  
TCCAGAGGACTGGTGTTCACACGGGCACTAAGAACTCCTTTATGGCTCTTTATCTTTCAAAGGACGTCTGGTC  
TTTGCAGTGGGGACAGATGGGAAAAAATTGAGGATCAAAGCAAGGAGAAATGCAATGATGGGAAATGGCACACG  
GTGGTGTGTGGCCATGATGGGAAAAGGGGCGCTTGTTGTGGATGGACTGAGGGCCCCGGGAGGGAAGTTTGCCT  
GGAACTCCACCATCAGCATCAGAGCGCCAGTTTACCTGGGATCACCTCCATCAGGGAAACCAAAGAGCCTCCCC  
ACAAACAGCTTTGTGGGATGCCTGAAGAACTTTCAGCTGGATTCAAACCCCTTGATACCCCTTCTTCAAGCTTC  
GGGGTGTCTTCTGCTTGGGTGGTCCTTTGGAGAAAGGCATTTATTTCTCTGAAGAAGGAGGTGATGTCGTCTTG  
GCTCACTCTGTATTGTTGGGGCCAGAATTTAAGCTTGTTTTAGCATCCGCCCAAGAAGTCTCACTGGGATCCTA  
ATACACATCGGAAGTCAGCCCGGGAAGCACTTATGTGTTTACCTGGAGGCAGGAAAGGTCACGGCCTCTATGGAC  
AGTGGGGCAGGTGGGACCTCAACGTCGGTCACACCAAAGCAGTCTCTGTGTGATGGACAGTGGCACTCGGTGGCA  
GTCACCATAAAACAACACATCCTGCACCTGGAAGTGGACACAGACAGTAGCTACACAGCTGGACAGATCCCCTTC  
CCACCTGCCAGCACTCAAGAGCCACTACACCTGGAGGTGCTCCAGCCAATTTGACGACACTGAGGATCCCTGTG  
TGGAATCATTCTTTGGCTGTCTGAGGAATATTCAITGTAATCACATCCCTGTCCCTGTCACTGAAGCCTTGGA  
GTCCAGGGGCTGTGAGTCTGAATGGTTGTCTGACCAGTAACCCAAGCCTATTTACAGCAAGGAAATTCACCT  
TCAAAGCACTGATTACCCAATGCACCTCCCTCCCCAGCTCGAGATCATTCTTCAATTAGGACACAAACCAGACA  
GGTTTAATAGCGAATCTAATTTTGAATTCTGACCATGGATACCCATCATTGTCATTGCTACATGTGTAT  
TTTATATAAAAAATCCCATTCTTGAAGATAAAAAAATTGTTATTCAAATTGTTATGCACAGAATGTTTTTGGTAA  
TATTAATTTCCACTAAAAAATTAAATGTCTTTT

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**FIGURE 5041**

MGWLWIFGAALGQCLGYSSQQQRVPFLQPPGQSQLQASYVEFRPSQGCSPGYRDKGLYTGRVCPCNCNGHSNQ  
CQDGSIGICVNCQHNTAGEHCERCQEGYGNVAVHGSCRACPCPHTNSFATGCVVNGGDVRCSCKAGYTGTQCERCA  
PGYFGNPQKFGGSCQPCSCNSNGQLGSCHPLTGDCINQEPKDSPPAECDDCDCVMTLLNDLATMGEQLRLVKS  
QLQGLSASAGLLEQMRHMETQAKDLRNQLLNYRSAISNHGSKIEGLERELTDLNQEFETLQEKAVNSRKAQTLN  
NNVNRATQSAKELDVKIKNVIRNVHILLKQISGTDGEGNNVPSGDFSREWAEAQMMRELNRNFGKHLREAEAD  
KRESQLLLNRIRTWQKTHQGENNGLANSIRDSLNEYEAKLSDLRARLQEAQAQKQANGLNQENERALGAIQRQV  
KEINSLQSDFTKYLTADSSLLQTNIALQLMEKSQKEYEKLAASLNEARQELSDKVRELSRSAGKTSIVEEAEKH  
ARSLQELAKQLEEIKRNASGDELVRCAVDAATAYENILNAIKAAEDAANRAASASESALQTVIKEDLPRKAKTSL  
SNSDKLLNEAKMTQKKLKQEVSPALNNLQQTNLNIVTVQKEVIDTNLTTLRDGLHGIQRGDIDAMISSAKSMVRKA  
NDITDEVLDGLNP IQTDVERIKDTYGRTONEDFKKALTDADNSVNKLTKLPDLWRKIESINQQLPLGNISDNM  
DRIRELIQQARDAASKVAVPMRFNGKSGVEVRLPNDLEDLKGYSLSLFLQRPNSRENGGTENMFVMYLGNKDAS  
RDYIGMAVVDGQLTCVYNLGDREAEQVDQILTKSETKEAVMDRVKFQRIYQFARLNYTKGATSSKPETPGVYDM  
DGRNSNTLLNLDPENNVFYVGGYPPDFKLP SRLSFPPYKGCIELDDLNNENVLSLYNFKKTFNLNTEVEPCRRRK  
EESDKNYFEGTGYARVPTQPHAPIPTFGQTIQTTVDRGLLFFAENGDRFISLNIEDGKLMVRYKLNSELPKERGV  
GDAINNGRDHSIQIKIGKLQKRMWINVDVQNTIIDGEVDFDSTYYLGGIPIAIRERFNISTPAFRGCMKNLKKTS  
GVVRLNDTVGVTKKCEDWKLVRASASFRRGGQLSFTDLGLPPTDHLQASFGFQTFQPSGILLDHQWTRNLQVTL  
EDGYIELSTSDSGGPIFKSPQTYMDGLLHYVSVISDNSGLRLLIDDQLLRNSKRLKHISRRQSLRLGGSNFEGC  
ISNVFVQRLSLSPVLDLTSNSLKRVDVSLGGCSLNKPPFLMLLKGSTFRNKTCTFRINQLLQDTPVASPRSVKVV  
QDACSPLPKTQANHGALQFGDIPTSHLLFKLPQELLKPRSQFAVDMQTTSSRGLVFHTGTKNFSMALYLSKGRLV  
FALGTDGKKLRIKSKEKCNDGKWHVTVFGHDGEKGRLVVDGLRAREGSLPGNSTISIRAPVYLGSPPSGKPKSLP  
TNSFVGCLKNFQLDSKPLYTPSSSFGVSSCLGGPLEKGIYFSEEGGHVVLHHSVLLGPEFKLVFSIRPRSLTGIL  
IHIGSQPGKHLVCVYLEAGKVTASMDSGAGGTSTSVTPKQSLCDGQWHSVAVTIKQHILHLELDTDSSYTAGQIPF  
PPASTQEPLHLGGAPANLTTLRIPVWKSFFGCLRNHVNHIPVPVTEALEVQGPVSLNGCPDQ

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**FIGURE 5042**

CCTTTCTGCCCCTGGACGCCGCCGAAGAAGCATCGTTAAAGTCTCTCTTCACCCTGCCGTCATGTCTAAGTCAGA  
GTCTCCTAAAGAGCCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGAGCTTTGAAACAACCTGATGAGAGCCT  
GAGGAGCCATTTTGAGCAATGGGGAACGCTCACGGACTGTGTGGTAATGAGAGATCCAAACACCAAGCGCTCCAG  
GGGCTTTGGGTTTGTACATATGCCACTGTGGAGGAGGTGGATGCAGCTATGAATGCAAGGCCACACAAGGTGGT  
GGAAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGGGAGGAAATTTTGA  
GGCAGAACTCTGGCCCCTATGGCGGTGGAGGCCAGTACTTTGCAAAACCACGAAACCAAGGTGGCTATGGCGGT  
TCCAGCAGCAGCAGTAGCTGTGTCTAGTGGCAGAAGATTTTAATTAGGAAACAAAGCTTAGCAGGAGAGGAGAGCC  
AGAGAAGTGACAGGGAAGCCACAGGTTACAACAGATTTGTGAACTCAGCCAAGCACAGTGGTGGCAGGGCCTAGC  
TGCTACAAAGAAGACATGTTTTAGACAAATACTCATGTGTATGGGCAAAAACTCGAGGACTGTGTTTGTGACTA  
ATTGTATAACAGGTTATTTTAGTTTCTGTTCTGTGGAAAGTGTAAGCATTCCAACAAAGCGTTTTAATGTAGAT



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**FIGURE 5043**

CCTTTCTGCCCCGTGGACGCCGCCGAAGAAGCATCGTTAAAGTCTCTCTTCACCCCTGCCGTCATGCTCTAAGTCAGA  
GTCTCCTAAAGAGCCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGAGCTTTGAAACAACCTGATGAGAGCCT  
GAGGAGCCATTTTGAGCAATGGGGAACGCTCACGGACTGTGTGGTAATGAGAGATCCAAACACCAAGCGCTCCAG  
GGGCTTTGGGTTTGTACATATGCCACTGTGGAGGAGGTGGATGCAGCTATGAATGCAAGGCCACACAAGGTGGA  
TGAAGAGTTGTGGAACCAAGAGAGCTGTCTCCAGAGAAGATTCTCAAAGACCAGGTGCCCACTTAAGTGTGAA  
AAAGATATTTGTTGGTGGCATTAAAGAAGACACTGAAGAACATCACCTAAGAGATTATTTGAACAGTATGGTGG  
AAGCAATTTTGGAGGTGGTGGAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCAT  
GAAGGGAGGAAATTTTGGAGGCAGAACTCTGGCCCCCTATGGCGGTGGAGGCCAGTACTTTGCAAAACCACGAAA  
CCAAGGTGGCTATGGCGGTTCCAGCAGCAGCAGTAGCTGTGTGTCAGTGGCAGAAGATTTTAATTAGGAAACAAAGC  
TTAGCAGGAGAGGAGAGCCAGAGAAGTGACAGGGAAGCCACAGGTTACAACAGATTTGTGAACTCAGCCAAGCAC  
AGTGGTGGCAGGGCCTAGCTGCTAC

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**FIGURE 5044**

MSKSKSPKEPEQQRKLFIGGLSFETTDESLRSHCEQWGMLTDCVVMRDPNFKHSRGCGFVTYATVEEVDAAMNAR  
PHKVDGRVVEPKRAVSREDSQRPGAHLTVKKIFVGGIKEDTEEHHLRDYFEQLEAILQVVEATVILAITTISLQI  
LDP

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**FIGURE 5045**

CCTTTCTGCCCCGTGGACGCCGCCGAAGAAGCATCGTTAAAGTCTCTCTTCACCCGTCCGTCATGTCTAAGTCAGA  
GTCTCCTAAAGAGCCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGAGCTTTGAAACAACCTGATGAGAGCCT  
GAGGAGCCATTTTGAGCAATGGGGAACGCTCACGGACTGTGTGGTAATGAGAGATCCAAACACCAAGCGCTCCAG  
GGGCTTTGGGTTTGTACATATGCCACTGTGGAGGAGGTGGATGCAGCTATGAATGCAAGGCCACACAAGGTGGA  
TGGAAGAGTTGTGGAACCAAAGAGAGCTGTCTCCAGAGAAGATTCTCAAAGACCAGGTGCCCACTTAAGTGTGAA  
AAAGATATTGTGGTGAAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGG  
GAGGAAATTTTGGAGGCAGAACTCTGGCCCCCT

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**FIGURE 5046**

CCTTTCTGCCCCTGGACGCCGCCGAAGAAGCATCGTTAAAGTCTCTCTTCACCCTGCCGTCATGTCTAAGTCAGA  
GTCTCCTAAAGAGCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGAGCTTTGAAACAACCTGATGAGAGCCT  
GAGGAGCCATTTTGTAGCAATGGGGAACGCTCACGGACTGTGTGGTAATGAGAGATCCAAACACCAAGCGCTCCAG  
GGGCTTTGGGTTTGTACATATGCCACTGTGGAGGAGGTGGATGCAGCTATGAATGCAAGGCCACACAAGGTGGA  
TGGAAGAGTTGTGGAACCAAGAGAGCTGTCTCCAGAGAAGATTCTCAAAGACCAGGTGCCCACTTAACTGTGAA  
AAAGATATTTGTTGGTGGCATTAAAGAAGACACTGAAGAACATCACCTAAGAGATTATTTTGAACAGTATGGAAA  
AATTGAAGTGATTGAAATCATGACTGACCGAGGCAGTGGCAAGAAAAGGGGCTTTGCCTTTGTAACTTTGACGA  
CCATGACTCCGTGGATAAGATTGTCAATTCAGAAAATACCATACTGTGAATGGCCACAACCTGTGAAGTTAGAAAAGC  
CCTGTCAAAGCAAGAGATGGCTAGTGCTTCATCCAGCCAAAGAGGTGCAAGTGGTTCTGGAACTTTGGTGGTGG  
TCGTGGAGGTGGTTTTCGGTGGGAATGACAACCTTCGGTCATGGAGGAACTTCAGTGGTCGTGGTGGCTTTGGTGG  
CAGCCGTGCTGGTGGTAGATATGGTGGCAGTGGGGATGGCTCTAATGGATTTGGTAATGATGGAAGCAATTTTGG  
AGGTGGTGGAAAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGGGAGGAAA  
TTTTGGAGGCAGAACTCTGGCCCTATGGCGGTGGAGGCCAGTACTTTGCAAACCACGAAACCAAGGTGGCTA  
TGGCGGTTCCAGCAGCAGCAGTAGCTGTGTCAGTGGCAGAAGATTTAATTAGGAAACAAAGCTTAGCAGGAGAG  
GAGAGCCAGAGAAGTGACAGGGAAGCCACAGGTTACAACAGATTTGTGAACTCAGCCAAGCACAGTGGTGGCAGG  
GCCTAGCTGCTACAAAGAAGACATGTTTTAGACAAATACTCATGTGTATGGGCAAAAACTCGAGGACTGTGTTT  
GTGACTAATTGTATAACAGGTTATTTTAGTCTCTGTCTGTGGAAAGTGTAAGCATTCCAACAAAGCGTTTTAA  
TGTAGATTTTTTTTTTTTGCACCCATGCTGTTGATTGCTAAATGTAATAGTCTGATCGTGACGCTGAATAAATGT  
CTTTTTTTTTTTAATGTGCTGTGTAAAGTTAGTCTACTCTGAAGCCATCTTGGTAAATTTCCCCAACAGTGTGAA  
GTTAGAATTCTTTCAGGGTGATGCCAGGTTCTATTTGGAATTTATATACAACCTGCTTGGGTGGAGAAGCCATTG  
TCTTCGGAAACCTTGGTGTAGTTGAACTGATAGTTACTGTTGTGACCTGAAGTTCACCATTAAAAGGGATTACCC  
AAACAAAGTCATGGAATGGTTATAAAAGTGATTGTTGGCACATCCTATGCAATATATCTAAATTGAATAATGGTA  
CCAGATAAAATTATAGATGGGAATGAAGCTTGTGTATCATCCATTATCATGTGTAATCAATAAACAATTTAATTC  
TCTTGAA

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**FIGURE 5047**

MSKSESPKEPEQLRKLFIGGLSFETTDESLRSHFEQWGTLTDCVVMRDPNTKRSRGFGFVITYATVEEVDAAMNAR  
PHKVDGRVVEPKRAVSREDSQRPD AHLTVKKIFVGGIKEDTEEHHLRDYFEQYGKIEVIEIMTDRGSGKKRGFAF  
VTFDDHDSVDKIVIQKYHTVNGHNCEVRKALSKQEMASASSSQGRSGSGNFGGGRGGGFGGNDNFGRGGNFSGR  
GGFGGSRGGGGYGGSGDGYNGFGNDGSNFGGGGSYNDFGNYYN

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**FIGURE 5048**

AAGTCTCTCTTCACCCTGCCGTCATGTCTAAGTCAGAGTCTCCTAAAGAGCCCGAACAGCTGAGGAAGCTCTTCA  
TTGGAGGGTTGAGCTTTGAAACAACCTGATGAGAGCCTGAGGAGCCATTTTGAGCAATGGGGAACGCTCACGGACT  
GTGTGGTAATGAGAGATCCAAACACCAAGCGCTCCAGGGGCTTTGGGTTTGTACATATGCCACTGTGGAGGAGG  
TGGATGCAGCTATGAATGCAAGGCCACACAAGGTGGATGGAAGAGTTGTGGAACCAAAGAGAGCTGTCTCCAGAG  
AAGATTCTCAAAGACCAGGTGCCCACTTAACTGTGAAAAAGATATTTGTTGGTGGCATTAAAGAAGACACTGAAG  
AACATCACCTAAGAGATTATTTTGAACAGTATGGAAAAATTGAAGTGATTGAAATCATGACTGACCGAGGCAGTG  
GCAAGAAAAGGGGCTTTGCCTTTGTAACCTTTGACGACCATGACTCCGTGGATAAGATTGTCATTGAGAAATACC  
ATACTGTGAATGGCCACAACCTGTGAAGTTAGAAAAGCCCTGTCAAAGCAAGAGATGGCTAGTGCTTCATCCAGCC  
AAAGAGGTCGAAGTGGTTCTGGAAACTTTGGTGGTGGTCGTGGAGGTGGTTTCGGTGGGAATGACAACTTCGGTC  
ATGGAGGAAACTTCAGTGGTCGTGGTGGCTTTGGTGGCAGCTCTAATGGATTTGGTAATGATGGAAGCAATTTTG  
GAGGTGGTGGGAAGCTACAATGATTTTGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGGGAGGAA  
ATTTTGGAGGCAGAACTCTGGCCCCCTATGGCGGTGGAGGCCAGTACTTTGCAAAACCACGAAACCAAGGTGGC

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**FIGURE 5049**

ACCCTGCCGTCATGTCTAAGTCAGAGTCTCCTAAAGAGCCCGAACAGCTGAGGAAGCTCTTCATTGGAGGGTTGA  
GCTTTGAAACAACCTGATGAGAGCCTGAGGAGCCATTTTGAGCAATGGGGAACGCTCACGGACTGTGTGGTAATGA  
GAGATCCAAACACCAAGCGCTCCAGGGGCTTTGGGTTTGTACATATGCCACTGTGGAGGAGGTGGATGCAGCTA  
TGAATGCAAGGCCACACAAGGTGGATGGAAGAGTTGTGGAACCAAGAGAGCTGTCTCCAGAGAAGATTCTCAAA  
GACCAGGTGCCCCTTAACCTGTGAAAAAGATATTTGTTGGTGGCATTAAAGAAGACACTGAAGAACATCACCTAA  
GAGATTATTTTGAACAGTATGGAAAAATTGAAGTGATTGAAATCATGACTGACCGAGGCAGTGGCAAGAAAAGGG  
GCTTTGCCTTTGTAACTTTGACGACCATGACTCCGTGGTGGCTTTGGTGGCAGCCGTGCTGGTGGTAGATATGG  
TGGCAGTGGGGATGGCTCTAATGGATTTGGTAATGATGGAAGCAATTTTGAGGTGGTGGGAAGCTACAATGATT  
TGGCAATTACAACAATCAGTCTTCAAATTTTGGACCCATGAAGGG

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**FIGURE 5050**

TTTTCTTAGACATTAACTGCAGACGGCTGGCAGGATAGAAGCAGCGGCTCACTTGGACTTTTTTACCAGGGAAAT  
CAGAGACAATGATGGGGCTCTTCCCCAGAACTACAGGGGCTCTGGCCATCTTCGTGGTGGTCATATTGGTTCATG  
GAGAATTGCGAATAGAGACTAAAGGTCAATATGATGAAGAAGAGATGACTATGCAACAAGCTAAAAGAAGGCAAA  
AACGTGAATGGGTGAAATTTGCCAAACCCCTGCAGAGAAGGAGAAGATAACTCAAAAAGAAACCCAATTGCCAAGA  
TTACTTCAGATTACCAAGCAACCCAGAAAATCACCTACCGAATCTCTGGAGTGGGAATCGATCAGCCGCCTTTTG  
GAATCTTTGTTGTTGACAAAAACACTGGAGATATTAACATAACAGCTATAGTCGACCGGGAGGAAACTCCAAGCT  
TCCTGATCAGATGTCGGGCTCTAAATGCCCAAGGACTAGATGTAGAGAAACCACTTATACTAACGGTTAAAAATTT  
TGGATATTAATGATAATCCTCCAGTATTTTCAACAATAATTTTCATGGGTGAAATTGAAGAAAATAGTGCCTCAA  
ACTCACTGGTGTGATACTAAATGCCACAGATGCAGATGAACCAACCACTTGAATTCTAAAATTGCCTTCAAAA  
TTGTCTCTCAGGAACCAGCAGGCACACCCATGTTCTCTTAAGCAGAAACACTGGGGAAGTCCGTACTTTGACCA  
ATTCTCTTGACCGAGAGCAAGCTAGCAGCTATCGTCTGGTTGTGAGTGGTGCAGACAAAGATGGAGAAGGACTAT  
CAACTCAATGTGAATGTAATATTAAGTGAAAGATGTCAACGATAACTTCCAATGTTTAGAGACTCTCAGTATT  
CAGCACGTATTGAAGAAAATATTTTAAGTTCTGAATTACTTCGATTTCAAGTAACAGATTGGATGAAGAGTACA  
CAGATAATTGGCTTGCACTATATTTCTTTACCTCTGGGAATGAAGGAAATTGGTTTGAAATACAACTGATCCTA  
GAACTAATGAAGGCATCCTGAAAGTGGTGAAGGCTCTAGATTATGAACAACACTACAAAGCGTGAACTTAGTATTG  
CTGTCAAAAACAAAGCTGAATTTACCAATCAGTTATCTCTCGATACCGAGTTCACTCAACCCAGTCACAATTC  
AGGTAATAAATGTAAGAGAAGGAATTGCATTCCGTCTGCTTCCAAGACATTTACTGTGCAAAAAGGCATAAGTA  
GCAAAAATTTGGTGGATTATATCCTGGGAACATATCAAGCCATCGATGAGGACACTAACAAAGCTGCCTCAAATG  
TCAATAATGTCATGGGACGTAACGATGGTGGATACCTAATGATTGATTCAAAAACCTGCTGAAATCAAATTTGTCA  
AAAATATGAACCGAGATTCTACTTTCATAGTTAACAAAACAATCACAGCTGAGGTTCTGGCCATAGATGAATACA  
CGGGTAAAACCTTCTACAGGCACGGTATATGTTAGAGTACCCGATTTCAATGACAATTGTCCAACAGCTGTCTCG  
AAAAGATGCAGTTTGCAGTTCTTCACCTTCCGTGGTTGTCTCCGCTAGAACACTGAATAATAGATACACTGGCC  
CCTATACATTTGCACTGGAAGATCAACCTGTAAAGTTGCCTGCCGTATGGAGTATCACAACCCCTCAATGCTACCT  
CGGCCCTCTCAGAGCCCAGGAACAGATACCTCCTGGAGTATACCACATCTCCCTGGTACTTACAGACAGTCAGA  
ACAATCGGTGTGAGATGCCACGCAGCTTGACACTGGAAGTCTGTGAGTGTGACAACAGGGGCATCTGTGGAACCT  
CTTACCCAACCACAAGCCCTGGGACCAGGTATGGCAGGCCGCACTCAGGGAGGCTGGGGCCTGCCGCCATCGGCC  
TGCTGCTCCTTGGTCTCCTGCTGCTGCTGTTGGCCCCCTTCTGCTGTTGACCTGTGACTGTGGGGCAGGTTCTA  
CTGGGGGAGTGACAGGTGGTTTTATCCAGTTCTTGATGGCTCAGAAGGAACAATTCATCAGTGGGGGAATTGAAG  
GAGCCCATCCTGAAGACAAGGAAATCACAAATATTTGTGTGCCTCCTGTAACAGCCAATGGAGCCGATTTTCATGG  
AAAGTTCTGAAGTTTGTACAAATACGTATGCCAGAGGCACAGCGGTGGAAGGCACTTCAGGAATGGAAATGACCA  
CTAAGCTTGGAGCAGCCACTGAATCTGGAGGTGCTGCAGGCTTTGCAACAGGGACAGTGTGAGGAGCTGCTTCAG  
GATTTCGGAGCAGCCACTGGAGTTGGCATCTGTTCTCAGGGCAGTCTGGAACCATGAGAACAAGGCATTCCACTG  
GAGGAACCAATAAGGACTACGCTGATGGGGCGATAAGCATGAATTTTCTGGACTCCTACTTTTCTCAGAAAGCAT  
TTGCCTGTGCGGAGGAAGACGATGGCCAGGAAGCAAATGACTGCTTGTGATCTATGATAATGAAGGCGCAGATG  
CCACTGGTTCTCCTGTGGGCTCCGTGGGTTGTTGCAGTTTTATTGCTGATGACCTGGATGACAGCTTCTTGGACT  
CACTTGGACCCAAATTTAAAAAACTTGCAAGATAAGCCTTGGTGTGATGGTGAAGGCAAAGAAGTTCAGCCAC  
CCTCTAAAGACAGCGGTTATGGGATTGAATCCTGTGGCCATCCCATAGAAGTCCAGCAGACAGGATTTGTTAAGT  
GCCAGACTTTGTGAGGAAGTCAAGGAGCTTCTGCTTTGTCCGCTCTGGGTCTGTCCAGCCAGCTGTTTCCATCC  
CTGACCTCTGCAGCATGGTAACATTTAGTAACGGAGACTTACTCGGCTTCTGGTTCCCTCGTGCAACCTTCCA  
CTGCAGGCTTTGATCCACTTCTCACACAAAATGTGATAGTGACAGAAAGGGTGATCTGTCCCATTTCAGTGTTTC  
CTGGCAACCTAGCTGGCCCAACGCAGCTACGAGGGTCACATACTATGCTCTGTACAGAGGATCCTTGCTCCCGTC  
TAATATGAGCAGAATGAGCTGGAATACCACACTGACCAATCTGGATCTTTGGACTAAAGTATTCAAAATAGCAT  
AGCAAAGCTCACTGTATTGGGCTAATAATTTGGCACTTATTAGCTTCTCTCATAAACTGATCAGGATTATAAATT  
AAATGTTTGGGTTTATACCCCAAAGCAATATGTTGTCACTCCTAATTCTCAAGTACTATTCAAATTTGTAGTAA  
TCTTAAAGTTTTTCAAAACCCATAAATCATATTCGC



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**FIGURE 5051**

MMGLFPRTTGALAIFVVVILVHGELRIETKGQYDEEEMTMQQAKRRQKREWVKFAKPCREGEDNSKRNP  
IAKITS  
DYQATQKITYRISGVGIDQPPFGIFVVDKNTGDINITAIVDREETPSFLITCRALNAQGLDVEKPLILTVKILDI  
NDNPPVFSQQIFMGEIEENSASNSLVMILNATDADEPNHLNSKIAFKIVSQEPAGTPMFLLSRNTGEVRTLTNSL  
DREQASSYRLVVSGADKDGEGSTQCECNKVKVDVNDNFPFMRDSQYSARIEENILSSELLRFQVTDLDEEYTDN  
WLAVYFFITSGNEGNWFEIQTDPRTNEGILKVVKALDYEQLQSVKLSIAVKNKAEFHQSVISRYRVQSTPVTIQVI  
NVREGIAFRPASKTFTVQKGISSKKLVDYILGTYQAIDEDTNKAASNVKYVMGRNDGGYLMIDSKTAEIKFVKNM  
NRDSTFIVNKTITAEVLAIDEYTGKTSTGTIVYVRVPDFNDNCPTAVLEKDAVCSSSPSVVVSARTLNNRYTG  
PYT  
FALEDQPVKLPVWSITTLNATSALLRAQEQIPPGVYHISLVLTDSQNNRCMPRSLTLEVCQCDNRGICGTSYP  
TTSPGTRYGRPHSGRLGPAAIGLLLLLGLLLLLLAPLLLLLTCDGAGSTGGVTGGFIPVPDGSEGTIHQWGIEGAH  
PEDKEITNICVPPVTANGADFMESEVCTNTYARGTAVEGTSGMEMTTKLGAATESGGAAGFATGTVSGAASGFG  
AATGVGICSSGQSGTMTRHSTGGTNKDYADGAISMNFLDSYFSQKAFACAEEDDGQEANDCLLIYDNEGADATG  
SPVGSVGCCSFIADDLDDSLGPKFKKLAELSLGVDGEGKEVQPPSKDSGYGIESCGHPIEVQQTGFVKCQT  
LSGSQGASALSASGSVQPAVSIPDPLQHGNLVTETYSASGSLVQVQSTAGFDPLLTQNVIVTERVICPISSVPGN  
LAGPTQLRGSHTMLCTEDPCSRLI

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**FIGURE 5052**

CCCACGCGTCCGGATGGTCCTGGTCACAAAATATTAAAGAGACCGACCGCTAAGGGAACAGGAAAAACGTCCGAG  
ACAGCCGTTGCAATTACGAATGGACCAGACTTGGTAGCACGGGGCATTGATTGCTGGTGCCCAACCGGACCCTCC  
TCCCCTCTTCCCATCCCTTCCCCACCCAAAGCAGGCTCCCGCTGCGGCCGGGACCTCGCATCCCTGCAACGTGG  
CCGGGGCTGCATTTTTTCATGAGCCTAGGGTGAACAGGTGCGAAGTGCCTGGGAGCATCCGGCCAGCGGCCGAGC  
GCGGGGAACATGGAGAGCGAGCGCGACATGTACCGCCAGTTCCAGGACTGGTGCTCAGGACTTACGGGGACTCA  
GGCAAGACCAAGACGGTGACCCGTAAAAAATACGAACGGATCGTCTAGCTCCTCAATGGCTCCGAGTCGAGCTCC  
ACGGACAACGCCAAATTTAAATTCTGGGTCAAATCGAAGGGCTTCCAGCTGGGCCAGCCGGACGAGGTCCGCGGG  
GGAGGCGGGCGGCCAAGCAAGTGCTCTAGTGCCGTGCAAGACCACGGATGGCGTAGGGGTAGATGAGAAGCTAT  
CTTTACGACGGGTAGCTGTGGTTGAAGATTTCTTTGACATTATTTATTTCGATGTCATGTGGAACGGGGCCAAATG  
GAGAACAATTCGGAACACGCTGGACAAAAGAGAACTTACAAAGCAATTTTCAGAGAGCTATGCCTTCCTACCAA  
GAGAAGCGGTGACACGATTTCTAATGAGCTGCTCAGAGTGCCAGAAAAGAATGCATTTAAACCCAGATGGAACAG  
ATCATAAAGATAATGGAAAACCTCCCACTTTGGTGACCAGCATGATTGACTACAACATGCCAATTACCATGGCCT  
ACATGAAACACATGAAGCTGCAGCTGCTAAACTCACAGCAAGATGAGGATGAAAGTTCAATAGAAAAGTGATGAAT  
TTGACATGAGTGATTCAACACGGATGTCAGCTGTGAACCTCTGATCTTAGCTCCAATCTTGAGAAAAGAAATGCAAA  
GTCCCCAGAATCTTCATGGCCAGCAAGATGATGATTCTGCTGCAGAGAGCTTTAATGGCAATGAGACTCTGGGGC  
ACAGTTCAATTGCTTCAGGGGGAAACACACAGCAGGGAGATGGGAGACTCCAACAGTGATGGCAAAACTGGGCTGG  
AGCAAGATGAACAGCCACTGAACCTGAGTGACAGTCCCCTCTCTGCGCAGCTAACTTCGGAATACAGAATAGATG  
ATCACAACAGTAATGGGAAAAACAAGTATAAGAATCTTCTAATTTCTGACCTCAAGATGGAACGAGAGGCGAGAG  
AAAATGGAAGCAAGTCTCCTGCACATAGTTACTCCAGCTATGACTCTGGCAAAAATGAGAGTGATAGACCGAGGAG  
CTGAGGACCTCTCACTAAACAGGGGAGATGAGGACGAAGATGACCACGAGGACCATGACGATTCGGAGAAAGTTA  
ATGAGACAGACGGCGTTGAAGCCGAGCGGCTGAAAGCTTTTAATATGTTTGTGAGGCTGTTTGTAGATGAAAAC  
TGGACCGAATGGTCCCAATCTCTAAGCAGCCCAAAGAAAAGATCCAGGCTATCATTGACTCATGCAGGCGACAAT  
TCCCTGAGTATCAAGAGCGTGCCAGAAAACGTATACGTACTTACCTCAAGTCCTGCAGGCGGATGAAAAGAAGTG  
GTTTTGAGATGTCTCGACCTATTCCCTTCCCACCTTACTTCAGCAGTTGCAGAGAGTATCTTGGCTTCAGCTTGTG  
AGAGTGAGAGTAGAAATGCCGCCAAGAGGATGCGTCTGGAGAGACAGCAGGATGAGTCTGCTCCAGCTGACAAAC  
AGTGTAACACAGAGGCGACCCAGGCCACTTACTCAACATCAGCTGTTCCAGGCTCACAGGACGTGCTGTACATCA  
ATGGAATGGGACCTATAGTTACCATAGTTACAGAGGGCTAGGAGGGGGTCTGCTAAATCTGAATGATGCTTCCA  
GCAGTGGACCCACTGATCTCAGCATGAAGAGACAATTGGCGACTAGCTCAGGATCCTCCAGCAGCTCAAACCTCCA  
GACCCAGCTGAGTCCAACCTGAAATCAATGCCGTGAGACAGCTTGTTGCAGGATATCGAGAATCAGCTGCATTTT  
TATTGCGATCTGCAGATGAACTGGAAAATCTCATTTTACAACAGAACTGAGACAGACGACCACCATATTTCACTGA  
GGTCTAAATTTGCAGTTCCACTAATGACATTTTGATTTCCTTCCCAACAGAGATACTTCTGGTCTTACTGCACAGTCTT  
TTAAGAGAAATACTTCCATTATGCCACATTGTCCTTGATCCGTAAGTGATGTGTTAAGGTGCTTCAAAGGAACTC  
TGACCTCTGAAGTACTTGAGCTACTTTAGTATGTCCAGCCTATTGCTTTTTGTTTTAGTGTGTCACCATAAATAT  
CAGGGGCATAAAAGGCTATCTATTCTTAATTCAAGGATAAAACAGAAGAAGCTTGTGGTATAAAACAATAGTTCA  
AGATCCAGCTGAAATATTAGTGGAATTTGCTACTGACTCATTGGACTGAAAGCTGAAGTACCTGGCAAAAAAAA

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**FIGURE 5053**

MHVETGPNGEQIRKHAGQKRTYKAISESYAFLPREAVTRFLMSCSECQKRMHLNPDGTDHKDNGKPPTLVTS MID  
YNMPITMAYMKHMKLQLLNSQQDEDESSIESDEFDMSDSTRMSAVNSDLSSNLEERMQSPQNLHGQQDDDSAAES  
FNGNETLGHSSIASGGTHSREMGSNSDGKTGLEQDEQPLNLSDSPLSAQLTSEYRIDDHNSNGKNKYKNLLISD  
LKMEREARENGSKSPAHSYSSYDSGKNESVDRGAEDLSLNRGDEDEDHEDHDDSEKVNETDGVEAERLKAFNMF  
VRLFVDENLDRMVPISKQPKEKIQAIIDSCRRQFPEYQERARKRIRTYLKSCRRMKRSGFEMS RPIPSHLTSAVA  
ESILASACESES RNAAKRMRLERQQDESAPADKQCKPEATQATYSTSAVPGSQDVLYINGNGTYSYHSYRGLGGG  
LLNLNDASSSGPTDLSMKRQLATSSGSSSSSNSRPQLSPTEINAVRQLVAGYRESAAFLRSADLENLILQQN

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**FIGURE 5054**

ATCTTGCTGGTTTTCGGCCGGTCTTGATGAAGCGGCGGCCGTGGTGAGAGCGTGGGGAAGGGTGGGGTGAGGGG  
GCGAGGCCCGCAGCTAGGGCGGCGAACTCTCCTCCCCTCGGCCCCACCGCGTGGGACGGCGTGAACGTGGTGTCTG  
GAGGGATGTCAGCCTTCTCTGAGGCGGCGCTGGAGAAGAAGCTGTCTGGAGTTGAGCAACTCGCAGCAGAGCGTGC  
AGACCTTGTCCCTGTGGCTCATTACACCACGTAAACACTCGCGTCCCATCGTCACCGTGTGGGAGCGGGAGCTGC  
GGAAAGCCAAACCAAACAGGAAGCTTACTTTTCTCTACCTAGCCAATGATGTCATACAGAACAGCAAGAGGAAGG  
GGCCAGAGTTTACAAAAGATTTTGCACCAGTTATAGTGGAGGCTTTTAAGCATGTTTCAAGTGAAACTGATGAAA  
GTTGTAAGAAGCACCTTGAAGAGTGTTATCTATTTGGGAAGAAAGGTCTGTTTATGAAAATGATGTATTAGAAC  
AACTTAAACAAGCTCTGTATGGTGATAAGAAGCCTAGGAAGCGAACTTATGAACAGATAAAGGTGGATGAAAATG  
AAAAGTGTCTCTCTGGGATCTCCAAGTGAACCACCACAGACTCTAGATCTCGTTAGAGCATTACAAGATCTGG  
AAAATGCAGCCTCAGGTGATGCAGCAGTTTATCAGAGGATAGCTTCTTTACCTGTTGAAGTCCAAGAAGTATCTC  
TATTAGATAAAAATAACAGATAAAGAATCTGGAGAAAGGCTTTCCAAAATGGTAGAGGATGCGTGTATGTTGCTGG  
CAGATTACAATGGCAGATTGGCGGCAGAAATAGATGATAGAAAGCAACTCACTCGAATGTTAGCAGATTTTCTTC  
GTTGTCAAAAGGAAGCCCTTGCAGAGAAAGAGCATAAATTGGAAGAGTACAAGCGCAAGCTAGCCAGAGTTTCCC  
TGGTGCAGCAAAAGAACTCAGGTCCCGGATCCAGAGCCTGCCAGACTTATCTCGATTGCCCAATGTCAGTGGCAGCC  
ACATGCACCTGCCCTTTGCGGGAGACATCTACAGTGAAGATTGATGGACCAGCCTCTTTCCAGGTCCCAGGACTT  
TGCAAGAGATGGAGACAGGTTAGGTGGATAGTCCTGTAGTGTTATTTTTGTATATTGTTGAGAAAGAAACACTAA  
CAAAAGGAACAACGAGTAATTTATAAAATTGTTTAAATGTTGGTTTGTACTATTTTATTGGTAAATTAACAT  
GACTTAATTTGAACAAAGTGATGATTTGTGTGTATTAATAAGCTCACAAATAGTGATTATTTTCAAAAGATCTTT  
TTGTAAATTTTTTTTTTTGATCCAAGGCCTTGTGAGAAATCTCTTGTGTTGATTTCTTCAGGTATTTTCAATTGTT  
TTTCTTTATTTTCTTCAGCATTTAATCAGTGTATACTATGTAATTCCTGAAGGGGAAGAACTAATTAGGAGTTGA  
TTGAGACTTTATTATGGTATAGTTAGGACTTGATTGTAGAAGGGACTAAATGTTCCAACATAATCTTTACCCTTC  
TCCCCAAACAAAATATCAATTCTGTGCTCTACATGCCCTTTGATTCTTCTAGAGGTCGGTAATTTAACATAAAACA  
GGGATGTCACCTTTGAGGGGCAGATGAAAGTCTAGAGAAGTGTTCCTTAATAGCATTGTAAAAGTCCATTCCAAC  
TGCCAGTGTAGATTTTAAAAGTGTTAAATAGTGAAGTCCCTTGAATTAAGTGTGTAATTATTTGAGTAGATTAA  
TAATGAAAATACTTTGGAAATAATATACATTTTGACATTCTACCAAGAGGACAACCTTTGGTCTGGAAGTGGTTT  
CTATTTGTCAAATCAGTTTCCTTTTAAACATAATTAATCCCTTTAACAAAAAGCCGTCTATGGGATTAAAAGACAC  
GTGAAATGATACTTTTATTATCCCTTGCTCATATAACTTTAAAAATAATACTTTTAGCTCTAATAGCTCAAGAA  
CACAATATTCGTTAATGTTTCAGTAAAGTAGCCTGAGACATTTTCAATGTTTCCTTAAGGTTTTTGAATGACTGTA  
TATTTGGCAGTTAAGCAGTGCCACACTACAGGGTAGATATGGTAAATTTTATATTTGTATATTTACAGTTACAAA  
ACAAATGTACTTTTACCTTTTATTTCTGACCCTGTGTGTTAGAGCAGTTGCATGCTCTCCTGCTGTAAAAACAC  
ATTGTTAAGCTGTGGATTTGTACTCAATAATGACTTAGGATAAACATTTATTTTCATTTCATTGCTTTACATACTA  
GACATTTTCTTCTCTTTGTAAGTAGATTCAAATTAGATAGTCAATAAAACATCTTGAATCCCAAGCC

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**FIGURE 5055**

ACCGCGTGTTTCGCGCCTGGTAGAGATTTCTCGAAGACACCAGTGGGCCCCGTTCCGAGCCCTCTGGACCGCCCGTG  
TGGAACCAAACCTGCGCGCGTGGCCGGGCGTGGGACAACGAGGCCGCGGAGACGAAGGCGCAATGGCGAGGAAG  
TTATCTGTAATCTTGATCCTGACCTTTGCCCTCTCTGTACAAATCCCCTTCATGAACATAAAGCAGCTGCTTTC  
CCCCAGACCACTGAGAAAATTAGTCCGAATTGGGAATCTGGCATTAAATGTTGACTTGGCAATTTCCACACGGCAA  
TATCATCTACAACAGCTTTTCTACCGCTATGGAGAAAATAATTCTTTGTGAGTTGAAGGGTTCAGAAAATTACTT  
CAAAATATAGGCATAGATAAGATTAAAAGAATCCATATACACCATGACCACGACCATCACTCAGACCACGAGCAT  
CACTCAGACCATGAGCGTCACTCAGACCATGAGCATCACTCAGAGCACGAGCATCACTCTGACCATGATCATCAC  
TCTCACCATAATCATGCTGCTTCTGGTAAAAATAAGCGAAAAGCTCTTTGCCAGACCATGACTCAGATAGTTCA  
GGTAAAGATCCTAGAAACAGCCAGGGGAAAAGGAGCTCACCAGCCAGAACATGCCAGTGGTAGAAGGAATGTCAAG  
GACAGTGTTAGTGCTAGTGAAGTGACCTCAACTGTGTACAACACTGTCTCTGAAGGAACACTCTTTCTAGAGACA  
ATAGAGACTCCAAGACCTGGAAAACCTCTTCCCCAAAGATGTAAGCAGCTCCACTCCACCCAGTGTACATCAAG  
AGCCGGGTGAGCCGGCTGGCTGGTAGGAAAACAAATGAATCTGTGAGTGAGCCCCGAAAAGGCTTTATGTATTCC  
AGAAACACAAATGAAAATCCTCAGGAGTGTTTCAATGCATCAAAGCTACTGACATCTCATGGCATGGGCATCCAG  
GTTCCGCTGAATGCAACAGAGTTCAACTATCTCTGTCCAGCCATCATCAACCAAATTGATGCTAGATCTTGTCTG  
ATTCTACAAAGTGAAGAAGGCTGAAATCCCTCCAAAGACCTATTCTATTACAAATAGCCTGGGTTGGTGGTTTT  
ATAGCCATTTCCATCATCAGTTTTCTGTCTCTGCTGGGGGTTATCTTAGTGCCTCTCATGAATCGGGTGTTTTTC  
AAATTTCTCCTGAGTTTTCTTGTGGCACTGGCCGTTGGGACTTTGAGTGGTGATGCTTTTTTACACCTTCTTCCA  
CATTCTCATGCAAGTCAACCACCATAGTCATAGCCATGAAGAACCAGCAATGGAAATGAAAAGAGGACCATTTC  
AGTCATCTGTCTTCTCAAAACATAGAAGAAAGTGCCATTTTTGATTCCACGTGGAAGGGTCTAACAGCTCTAGGA  
GGCCTGTATTTTCATGTTTTCTTGTGTAACATGTCCTCACATTGATCAACAATTTAAAGATAAGAAGAAAAAGAAT  
CAGAAGAAACCTGAAAATGATGATGATGTGGAGATTAAGAAGCAGTTGTCCAAGTATGAATCTCAACTTTCAACA  
AATGAGGAGAAAGTAGATACAGATGATCGAAGTGAAGGCTATTTACGAGCAGACTCACAAGAGCCCTCCCACTTT  
GATTCTCAGCAGCCTGCAGTCTTGAAGAAGAAGAGGTCATGATAGCTCATGCTCATCCACAGGAAGTCTACAAT  
GAATATGTACCCAGAGGGGTGCAAGAATAAATGCCATTACATTTCCACGATACACTCGGCCAGTCAGACGATCTC  
ATTCACCACCATCATGACTACCATCATATTCTCCATCATCACCACCACCAAAACCACCATCCTCACAGTCACAGC  
CAGCGCTACTCTCGGGAGGAGCTGAAAGATGCCGGCGTCGCCACTCTGGCCTGGATGGTGATAATGGGTGATGGC  
CTGCACAATTTACGCGATGGCCTAGCAATTGGTGCTGCTTTTACTGAAGGCTTATCAAGTGGTTAAGTACTTCT  
GTTGCTGTGTTCTGTGATGAGTTGCCTCATGAATTAGGTGACTTTGCTGTTCTACTAAAGGCTGGCATGACCGTT  
AAGCAGGCTGTCTTTTATAATGCATTGTGAGCCATGCTGGCGTATCTTGAATGGCAACAGGAATTTTCATTGGT  
CATTATGCTGAAAATGTTTCTATGTGGATATTTGCACTTACTGCTGGCTTATTCATGTATGTTGCTCTGGTTGAT  
ATGGTACCTGAAATGCTGCACAATGATGCTAGTGACCATGGATGTAGCCGCTGGGGGTATTTCTTTTTTACAGAAT  
GCTGGGATGCTTTTGGGTTTGGAAATTATGTTACTTATTTCCATATTTGAACATAAAATCGTGTTCGTATAAAT  
TTCTAGTTAAGGTTTAAATGCTAGAGTAGCTTAAAAGTTGTCTAGTTTTCAGTAGGTCATAGGGAGATGAGTTT  
GTATGCTGTACTATGCAGCGTTTAAAGTTAGTGGGTTTTGTGATTTTTGTATTGAATATTGCTGTCTGTTACAAA  
GTCAGTTAAAGGTACGTTTTAATATTTAAGTTATTCTATCTTGGAGATAAAATCTGTATGTGCAATTCACCGGTA  
TTACCAGTTTATTATGTAAACAAGAGATTGGCATGACATGTTCTGTATGTTTCAGGGAAAAATGCTTTTAAATGC  
TTTTTCAAGAACTAACACAGTTATTCTTATACTGGATTTTAGGTCTCTGAAGAACTGCTGGTG

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**FIGURE 5056**

AGTTGGCGACATGGTGGCACCCGTGCTGGAGACTTCTCACGTGTTTTGCTGCCCAAACCGGGTGCGGGGAGTCCT  
GAACTGGAGCTCTGGGCCCAGAGGACTTCTGGCCTTTGGGCACGTCCTGCTCCGTGGTGCTCTATGACCCCTGAA  
AAGGGTTGTTGTTACCAACTTGAATGGTCACACCGCCCCGAGTCAATTGCATACAGTGGATTTGTAAACAGGATGG  
CTCCCCCTTCTACTGAATTAGTTTTCTGGAGGATCTGATAATCAAGTGATTCACTGGGAAATAGAGGATAATCAGCT  
TTTAAAGCAGTGTCATCTTCAAGGCCATGAAGGACCTGTTTATGCGGTGCATGCTGTTTACCAGAGGAGGACATC  
AGATCCTGCATTATGTACACTGATCGTTTCTGCAGCTGCAGATTCTGCTGTTTCGACTCTGGTCTAAAAAGGGTCC  
AGAAGTAATGTGCCTTCAGACTTTAAACTTTGGAAATGGATTGCTTTGGCTCTCTGCTTATCTTTTTTGCCAAA  
TACTGATGTACCAATATTAGCATGTGGCAATGATGATTGCAGAATTCACATATTTGCTCAACAAAATGATCAGTT  
TCAGAAAGTGCTTTCTCTCTGTGGACATGAGGATTGGATTAGAGGAGTGGAATGGGCAGCCTTTGGTAGAGATCT  
TTTCCTAGCAAGCTGTTTACAAGATTGCCTGATAAGAATATGGAAGCTGTATATAAAGTCAACATCTTTAGAAAC  
TCAGGATGACGATAACATAAGACTGAAAGAAAATACTTTTACCATAGAAAATGAAAGTGTTAAAAATAGCATTGCG  
TGTTACTCTGGAGACAGTGCTAGCCGGTCATGAAAACGGGTAAATGCAGTTCACTGGCAACCTGTGTTTTACAA  
AGATGGTGTCTACAGCAGCCAGTGAGATTATTATCTGCTTCCATGGATAAAACCATGATTCTCTGGGCTCCAGA  
TGAAGAGTCAGGAGTTTGGCTAGAACAGGTTTCGAGTAGGTGAAGTAGGTGGGAATACTTTGGGATTTTTATGATTG  
CCAGTTCAATGAAGATGGCTCCATGATCATTGCTCATGCTTTCCACGGAGCGTTGCACCTTTGGAAACAGAATAC  
AGTTAACCCAAGAGAGTGGACTCCAGAGATTGTCATTTCAGGACACTTTGATGGTGTCCAAGACCTAGTCTGGGA  
TCCAGAAGGAGAATTTATTATCACTGTTGGTACTGATCAGACAACCTAGACTTTTTGCTCCATGGAAGAGAAAAGA  
CCAATCACAGGTGACTTGGCATGAAATTGCAAGGCCTCAGATACATGGGTATGACCTGAAATGTTTGGCAATGAT  
TAATCGGTTTTAGTTTTGTATCTGGAGCAGATGAAAAAGTTCCTCGGGTTTTTTCTGCACCTCGGAATTTTGTGGA  
AAATTTTTGTGCCATTACAGGACAATCACTGAATCATGTGCTCTGTAATCAAGATAGTGATCTTCCAGAAGGAGC  
CACTGTCCCTGCATTGGGATTATCAAATAAAGCTGTCTTTAGGGAGATATAGCTTCTCAGCCTTCTGATGAAGA  
GGAGCTGTAACTAGTACTGGTTTTGAGTATCAGCAGGTGGCCTTTAGCCCTCCATACTTACTGAGCCTCCAC  
TGAGGATCATCTTCTGCAGAATACTTTGTGGCCTGAAGTTCAAAAACCTATATGGGCACGGTTATGAAATATTTTG  
TGTTACTTTGTAACAGTTCAAAGACTCTGCTTGCCTCAGCTTGTAAAGGCAGCTAAGAAAGAGCATGCAGCTATCAT  
TCTTTGGAACACTACATCTTGGAACAGGTGCAGAATTTAGTTTTCCACAGTTTGACAGTCACGCAGATGGCCTT  
CTCACCTAATGAGAAGTTCTTACTAGCTGTTTCCAGAGATCGAACCTGGTCATTGTGGAAGGAGCAGGATACAAT  
CTCACCTGAGTTTCGAGCCAGTTTTTAGTCTTTTTGCCTTCACCAACAAAATTACTTCTGTGCACAGTAGAATTAT  
TTGGTCTTGTGATTGGAGTCTTGACAGCAAGTATTCTTCACTGGGAGTCGAGACAAAAGGTGGTTGTCTGGGG  
TGAGTGGGACTCCACTGATGACTGTATTGAGCACAAACATTGGCCCCCTGCTCCTCAGTCCTGGACGTGGGTGGGGC  
TGTGACAGCTGTGAGCGTCTGCCCAGTGCTCCACCCTTCTCAACGATACGTGGTTGCAGTAGGATTGGAGTGTGG  
AAAGATTTGCTTATATACCTGGAAAAAGACTGATCAAGTTCCAGAAATAAATGACTGGACCCACTGTGTAGAAAC  
AAGTCAAAGCCAAAGTCATACACTGGCTATCAGAAAATTATGCTGGAAGAATTGCAGTGGAAAAACTGAACAGAA  
GGAAGCAGAAGGTGCTGAGTGGTTACACTTTGCAAGCTGTGGTGAAGATCACACTGTGAAGATACACAGAGTCAA  
TAAATGTGCACTGTAAATGG

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**FIGURE 5057**

MVAPVLETSHVFCCPNRVRGVNLWSSGPRGLLAFGTSCSVVLYDPLKRVVVTNLNGHTARVNCIQWICKQDGSPS  
TELVS GGS DNQVIHWEIEDNQLLKAVHLQGHEGPVYAVHAVYQRR TSDPALCTLIVSAAADSAVRLWSKKGPEVM  
CLQTLNFGNGFALALCLSFLPNTDVPILACGNDDCRIHIFAQQNDQFQKVLSLCGHEDWIRGVEWAAFGRDLFLA  
SCSQDCLIRIWKLYIKSTSLETQDDDNIRLKENTFTIENESVKIAFAVTLETVLAGHENWVNAVHWQPVFYKDG  
LQQPVRLLSASMDKTMILWAPDEESGVWLEQVRVGEVGGNTLGFYDCQFNEDGSMIIAHAFHGALHLWKQNTVNP  
REWTPEIVISGHFDGVQDLVWDPEGEFIITVGTDTTTLFAPWKRKQSQVTWHEIARPQIHGYDLKCLAMINRF  
QFVSGADEKVLRVFSAPRNFVENFCAITGQSLNHVLCNQSDSLPEGATVPALGLSNKAVFQGDIA SQPSDEEELL  
TSTGFEYQQVAFQPSILTEPPTEDHLLQNTLWPEVQKLYGHGYEIFCVTCNSSKTL LASACKAAKKEHAAIILWN  
TTSWKQVQNLVFHSLTVTQMAFSPNEKFLLAVSRDRTWSLWKKQDTISPEFEPVFSLFAFTNKITSVHSRIIWSC  
DWSPDSKYFFTGSRDKKV VVWGECDSTDDCIEHNIGPCSSVLDVGGAVTAVSVCPVLHPSQRYVVAVGLECGKIC  
LYTWKKTDQVPEINDWTHCVETSQSQSHTLAIRKLCWKNC SGKTEQKEAEGAEWLHFASCGEDHTVKIHRVNKCA  
L

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**FIGURE 5058**

CTCTCCTCCCGCCGCCCAAGATGCCGAAAGGAAAGAAGGCCAAGGGAAAGAAGGTGGCTCCGGCCCCCTGCTGTCTG  
TGAAGAAGCAGGAGGCTAAGAAAGTGGTGAATCCCCTGCTTGAGAAAAGGCCTAAGAATTTTGGCATTGGACAGG  
ACATCCAGCCCCAAAAGAGACCTCACCCGCTTTGTGAAATGGCCCCGCTATATCAGGTTGCAGCGGCAGAGAGCCA  
TCCTCTATAAGCGGCTGAAAGTGCCTCCTGCGATTAACCAAGTTCACCCAGGCCCTGGACCGCCAAACAGCTACTC  
AGCTGCTTAAGCTGGCCCAAAATACAGACCAGAGACAAAGCAAGAGAAGAAGCAGAGACTGCTGGCCCGGGAGG  
AGAAGAAAGCTGCTGGCAAAGGGGACGTCCCCACGAAAAGACCACCTGTCCTTCGAGCAGGAGTTAATACCGTCA  
CCACCTTGGTGGAGAACAAGAAAGCTCAGCTGGTGGTAATTGCACATGACGTGGATCCCATCGAGCTGGTTGTCT  
TCTTGGCTGCCCTGTGTCTGTAATAATGGGGGTCCCTTACTGCATTATCAAGGGGAAGGCAAGACTGGGACGTCTAG  
TCCACAGGAAGACCTGCACCACTGTGCGCTTCACACAGGTGAACTCGGAAGACAAAGGCACCTTTGGCTAAGCTGA  
TGGAAAGCTATCAGGACCAATTACAATGACAGATACGATGAGATCCGCCGTCACTGGGGCGGCAACGTCCTGGGTC  
CTAAGTCTGTGGCTCGTATCGCCAAGCTCGAAAAGGCAAAAGGCTAAAGACCTTGCCACTAAACTGGGTTAAATGT  
ACACTGTTGAGTTTTCTGTACATAAAAATAATTAAAATAATACAAATTTTCTTC



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**FIGURE 5059**

MPKGKKAKGKKVAPAPAVVKKQEAKKVVNPLEKRPKNFGIGQDIQPKRDLTRFVKWPRYIRLQRQRAILYKRLK  
VPPAINQFTQALDRQTATQLLKLAKHYRPETKQEKQRLAREEKAAGKGDVPTKRPPVLRAGVNTVTTLVENK  
KAQLVVIAHDVDPIELVVFLAALCRKMGPYCI IKGKARLGRLVHRKTCTTVAFTQVNSEDKGTLAKLMEAIRTN  
YNDRYDEIRRHWGGNVLGPKSVARIAKLEKAKAKDLATKLG

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**FIGURE 5060**

GGCACGAGGGCGGGGCGCATCTCCCGCTAGGAGTTCCCTAGTAAAGTGGCGGGAGCCGCAGCTATGGAGCCGCAGG  
AGGAGAGAGAAACGCAGGTTGCTGCGTGTTAAAAAAATATTTGGAGATCATCCTATTCCACAGTATGAGGTGA  
ACCCACGGACCACAGAGATTTTACATCACCTTTCAGAACGCAACAGGGTCCGGGACAGGGATGTCTACCTGGTAA  
TAGAGGACTTGAAGCAGAAAGCAAGTGAATACGAGTCAGAAGCCAAGTATCTTCAAGACCTTCTCATGGAGAGTG  
TGAATTTTTCCCCCGCCAATCTCTCTAGCACTGGTTCCAGGTATCTGAATGCTTTGGTTGACAGTGCGGTGGCCC  
TTGAAACAAAGGATACCTCGCTAGCTAGTTTTATCCCTGCAGTGAATGATTTGACCTCTGATCTCTTTCGTACCA  
AATCCAAAAGTGAAGAAATCAAGATTGAACTGGAAAACTTGAAAAAAATTTAACTGCAACTTTAGTATTAGAAA  
AATGTCTACAAGAGGATGTCAAGAAAGCAGAGTTGCATCTGTCTACAGAAAGGGCCAAAGTTGATAATCGTCGTC  
AGAACATGGACTTTCTAAAAGCAAAGTCAGAGGAATTCAGATTTGGAATCAAGGCTGCAGAGGAGCAACTTTTCAG  
CCAGAGGCATGGATGCTTCTCTGTCTCATCAGTCCTTAGTAGCACTATCAGAGAACTGGCAAGATTAAAGCAAC  
AGACTATACCTTTGAAGAAAAAATTGGAGTCCTATTTAGACTTAATGCCGAATCCGTCTCTTGCTCAAGTGAAAA  
TTGAAGAAGCAAAGCGAGAACTAGATAGCATTGAAGCTGAACTTACAAGAAGAGTAGACATGATGGAAGCTGAGAC  
AAAAGCCAAATAAACATCCTTTTCCCTAACAAAGTAAATTGAATAGGACTTTACAGAGTTCTTTTTCCCTCTTGGC  
ATTTCCCTAATAACAAAACCTTTCTGTGTTCTTAGATTACAGAATATCATAATTGATAGAATATGGTTTCTTACTGT  
GTGTTGCATTTTTGTGCCCAAATACATAGTTTTTCATATTAAAAAGCCTTTTCTTTAAAAAAAAAAAAAAAAAAAA  
AA

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**FIGURE 5061**

MEPQEERETQVAAWLKKIFGDHPIQYEVNPRTEILHHLSENRVRDRDVYLVIEDLKQKASEYESEAKYLQDL  
LMESVNFSPANLSSTGSRYLNALVDSAVALETKDTSLASFIPAVNDLTSDLFRTKSKSEEIKIELEKLEKNLTAT  
LVLEKCLQEDVKKAELHLSTERAKVDNRRQNMDFLKAKSEEFRFGIKAAEEQLSARGMDASLSHQSLVASEKLA  
RLKQQTIP LKKKLESYLDLMPNPSLAQVKIEEAKRELD SIEAELTRRVDMMEL

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**FIGURE 5062**

GTCCCAGTCAGTCCGGAGGCTGCGGCTGCAGAAGTACCGCCTGCGGAGTAACTGCAAAGATGCTGTCCGTGCGCG  
TTGCTGCGGCCGTGGTCCGCGCCCTTCCTCGGCGGGCCGGACTGGTCTCCAGAAATGCTTTGGGTTTCATCTTTCA  
TTGCTGCAAGGAACCTTCCATGCCTCTAACACTCATCTTCAAAGACTGGGACTGCTGAGATGTCCTCTATTCTTG  
AAGAGCGTATTCTTGGAGCTGATACCTCTGTTGATCTTGAAGAACTGGGCGTGTCTTAAGTATTGGTGATGGTA  
TTGCCCAGTACATGGGCTGAGGAATGTTCAAGCAGAAGAAATGGTAGAGTTTTCTTCAGGCTTAAAGGGTATGT  
CCTTGAACCTTGAACCTGACAATGTTGGTGTGTCGTGTTGGAAATGATAAACTAATTAAGGAAGGAGATATAG  
TGAAGAGGACAGGAGCCATTGTGGACGTTCCAGTTGGTGAGGAGCTGTTGGGTCGTGTAGTTGATGCCCTTGGA  
ATGCTATTGATGGAAGGGTCCAATTGGTTCCAAGACGCGTAGGCGAGTTGGTCTGAAAGCCCCGGTATCATT  
CTCGAATTTAGTGCAGGAACCAATGCAGACTGGCATTAAAGGCTGTGGATAGCTTGGTGCCAATTGGTCGTGGTC  
AGCGTGAACTGATTATTGGTGACCGACAGACTGGGAAAACCTCAATTGCTATTGACACAATCATTAACCAGAAAC  
GTTTCAATGATGGATCTGATGAAAAGAAGAAGCTGTACTGTATTTATGTTGCTATTGGTCAAAAGAGATCCACTG  
TTGCCAGTTGGTGAAGAGACTTACAGATGCAGATGCCATGAAGTACACCATTGTGGTGTGCGCTACGGCCTCGG  
ATGCTGCCCCACTTCAGTACCTGGCTCCTTACTCTGGCTGTTCCATGGGAGAGTATTTTAGAGACAATGGCAAAC  
ATGCTTTGATCATCTATGACGACTTATCCAAACAGGCTGTTGCTTACCGTCAGATGTCTCTGTTGCTCCGCCGAC  
CCCCTGGTGTGAGGCCTATCCTGGTGATGTGTTCTACCTACACTCCCGGTTGCTGGAGAGAGCAGCCAAAATGA  
ACGATGCTTTTGGTGGTGGCTCCTTGACTGCTTTGCCAGTCATAGAAACACAGGCTGGTGATGTGTCTGCTTACA  
TTCCAACAAATGTCATTTCCATCACTGACGGACAGATCTTCTTGAAACAGAATTGTTCTACAAAGGTATCCGCC  
CTGCAATTAACGTTGGTCTGTCTGTATCTCGTGTGCGATCCGCTGCCCAAACCAGGGCTATGAAGCAGGTAGCAG  
GTACCATGAAGCTGGAATTGGCTCAGTATCGTGAGGTTGCTGCTTTTGCCAGTTTCGGTTCTGACCTCGATGCTG  
CCACTCAACAACCTTTTGAGTCGTGGCGTGCGTCTAACTGAGTTGCTGAAGCAAGGACAGTATTCTCCCATGGCTA  
TTGAAGAACAAGTGGCTGTTATCTATGCGGGTGTAAAGGGGATATCTTGATAAACTGGAGCCCAGCAAGATTACAA  
AGTTTGAGAATGCTTTCTTGTCTCATGTCGTGAGCCAGCACCAAGCCTTGTTGGGCACTATCAGGGCTGATGGAA  
AGATCTCAGAACAATCAGATGCAAAGCTGAAAGAGATTGTAACAAATTTCTTGGCTGGATTGAAGCTTAAACTC  
CTGTGGATTACATCAAATACCAGTTCAGTTTTGTCATTGTTCTAGTAAATTAGTTCCATTGTAAAAGGGTTAC  
TCTCATACTCCTTATGTACAGAAATCACATGAAAAATAAAGGTTCCATAATGC

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**FIGURE 5063**

MLSVRVAAAVVRALPRRAGLVSRNALGSSFIAARNFHASNTHLQKTGTAEEMSSILEERILGADTSVDLEETGRVL  
SIGDGIARVHGLRNVQAEEMVEFSSGLKGMSLNLEPDNVGVVVFNDKLIKEGDIVKRTGAIVDVPVGEELLGRV  
VDALGNAIDGKGPIGSKTRRRVGLKAPGIIPRISVREPMQTGIKAVDSLVPIGRGQRELIIGDRQTGKTSIAIDT  
IINQKRFNDGSDEKKKLYCIYVAIGQKRSTVAQLVKRLTDADAMKYTIVVSATASDAAPLQYLAPYSGCSMGEYF  
RDNGKHALIIYDDLKQAVAYRQMSLLLRPPGREAYPGDVLYLHSRLLERAAMNDAFGGGSALTALPVIETQAG  
DVSAYIPTNVISITDGQIFLETIFYKGIRPAINVGLSVSRVGSAAQTRAMKQVAGTMKLELAQYREVAFAQFG  
SDLDAATQQLLSRGVRLTELLKQGQYSPMAIEEQVAVIYAGVRGYLDKLEPSKITKFENAFLSHVVSQHQALLGT  
IRADGKISEQSDAKLKEIVTNFLAGFEA

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**FIGURE 5064**

CCATGGACTTTATCAACGACGCCACCGACGTCAACGATGCCCTGGGCTATGTGACCCGCTTCTACCGCGAGGCCT  
CGTCCGGCGCTGCCAAGAAGAGGCTGCTGCTCTTCTCAGATGGCAACTCGCAGGGCGCCACGCCCCTGCCATCG  
AGAAGGCCGTGCAGGAAGCCCAGCGGGCAGGCATCGAGATCTTCGTGGTGGTTCGTGGGCCGCCAGGTGAATGAGC  
CCCACATCCGCGTCTTGGTCACCGGCAAGACGGCCGAGTACGACGTGGCCTACGGCGAGAGCCACCTGTTCCGTG  
TCCCCAGCTACCAGGCCCTGCTCCGCGGTGTCTTCCACCAGACAGTCTCCAGGAAGGTGGCGCTGGGCTAGCCCA  
CCCTGCACGCCGGCACCAAACCTGTCTCTCCACCCCTCCCCACTCATCACTAAACAGAGTAAATGTGATGCGA  
ATTTTCCCGACCAACCTGATTCGCTAGATTTTTTTCCTTCTGTGTTTTTTTCTGAACCATATCCATGTTGCTGAC  
TTTTCAAATAAAGGTTTTCACTCCTC

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**FIGURE 5065**

CTCAGCCCCAGCTCCAACAGAAGCAGCCCGGCCACCCACTCCCCGTGACCGCCACGCCACATGGACACAGCCCT  
CGCCCTCCGCCCCGGCTTTTCTCTGCCTTTCTACCGACCATGTGACCCCGCACCAGCCCTGCCCCACCTGCCCT  
CCCGGGCAGTACTGGGGACCTTCCCTGGGGGACGGGGAGGGAGGAGGCAGCGACTCCTTGGACAGAGGCCTGGGC  
CCTCAGTGGACTGCCCTGCTCCACAGCCTGGGCTGACGTGAGAGGCCGAGGCCAGGAAGTGAAGTGAAGGCCCTGG  
TCCTGGGTCTCAGGATGGGTCTGGGGGCTCGTGTTCATCAAGACACCCCTCTGCCCAGCTCACCACATCTTCA  
TCACCAGCAAACGCCAGGACTTGGCTCCCCCATCCTCAGAACTCACAAGCCATTGCTCCCCAGCTGGGGAACTC  
AACCTCCCCCTGCCCTCGGTTGGTGACAGAGGGGGTGGGACAGGGGGCGGGGGTCCCCCTGTACATACCCTGCC  
ATACCAACCCCAAGGTATTAATTCTCGCTGGTTTTGTTTTTATTTTAATTTTTTGTGTTTTGATTTTTTTAATAAGA  
ATTTTCATTTTAAGCACATTTATACTGAAGGAATTTGTGCTGTGTATTGGGGGAGCTGGATCCAGAGCTGGAGG  
GGGTGGGTCCGGGGGAGGGAGTGGCTCGGAAGGGGCCCCACTCTCCTTTCATGTCCCTGTGCCCCCAGTTCTC  
CTCCTCAGCCTTTTCTCCTCAGTTTTCTCTTTAAACTGTGAAGTACTAACTTTCCAAGGCCTGCCTTCCCCTC  
CCTCCCACTGGAGAAGCCGCCAGCCCTTTCTCCCTCTGCCTGACCACTGGGTGTGGACGGTGTGGGGCAGCCCT  
GAAAGGACAGGCTCCTGGCCTTGGCACTTGCCTGCACCCACCATGAGGCATGGAGCAGGGCATAGCAAGGGCCCC  
GGGACAGAGTTTTCCAGACCTGGCTCCTCGGCAGAGCTGCCTCCCGTCAGGGCCCACATCATCTAGGCTCCCCA  
GCCCCCACTGTGAAGGGGCTGGCCAGGGGCCCCGAGCTGCCCCACCCCCGGCCTCAGCCACCAGCAGCCCCATAG  
GGCCCCCAGACACCACACACATGCGCGTGCGCACACACACAAACACACACACACTGGACAGTAGATGGGCCGACA  
CACACTTGGCCCGAGTTCTCCTCATTCCCTGGCXTGGCCCCCACCCCCAACCTGTCCACCCCCGTGCCCCCTC  
CTTACCCCGCAGGACGGGCCTACAGGGGG

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**FIGURE 5066**

AGGTTTCGATACAAGAGGCTGTTTTCTAGCGTGGCTTGCTGCCTTTGGTAAGAACATGTCGTCCATCTTGCCATT  
CACGCCGCCAGTTGTGAAGAGACTGCTGGGATGGAAGAAGTCAGCTGGTGGGTCTGGAGGAGCAGGCCGAGGAGA  
GCAGAATGGGCAGGAAGAAAAGTGGTGTGAGAAAGCAGTGAAAAGTCTGGTGAAGAAGCTAAAGAAAACAGGACG  
ATTAGATGAGCTTGAGAAAGCCATCACCCTCAAACTGTAATACTAAATGTGTTACCATAACCAAGCACTTGCTC  
TGAAATTTGGGACTGAGTACACCAAATACGATAGATCAGTGGGATACAACAGGCCTTTACAGCTTCTCTGAACA  
AACCAGGTCTCTTGATGGTCTCTCCAGGTATCCCATCGAAAAGGATTGCCACATGTTATATATTGCCGATTATG  
GCGCTGGCCTGATCTTCACAGTCATCATGAACTCAAGGCAATTGAAAAGTGCGAATATGCTTTTAATCTTAAAAA  
GGATGAAGTATGTGTAAACCTTACCCTATCAGAGAGTTGAGACACCAGTTTTGCCTCCAGTATTAGTGCCCCG  
ACACACCGAGATCCTAACAGAACTTCCGCTCTGGATGACTATACTCACTCCATTCCAGAAAACACTAACTTCCC  
AGCAGGAATTGAGCCACAGAGTAATTATATTCCAGAAACGCCACCTCCTGGATATATCAGTGAAGATGGAGAAAC  
AAGTGACCAACAGTTGAATCAAAGTATGGACACAGGCTCTCCAGCAGAACTATCTCCTACTACTCTTTCCCCTGT  
TAATCATAGCTTGGATTTACAGCCAGTTACTTACTCAGAACCTGCATTTTGGTGTTTCGATAGCATATTATGAATT  
AAATCAGAGGGTTGGAGAAACCTTCCATGCAACACAGCCCTCACTCACTGTAGATGGCTTTACAGACCCATCAAA  
TTCAGAGAGGTTCTGCTTAGGTTTACTCTCCAATGTTAACCGAAATGCCACGGTAGAAATGACAAGAAGGCATAT  
AGGAAGAGGAGTGCCTTATACTACXATAGGTGGGGAAGTTTTTGCTGAGTGCCTAAGTGATAGTGCAATCTTTG  
TGCAGAGCCCCAATTGTAATCAGAGATATGGCTGGCACCTGCAACAGTGTGTAAAATTCCACCAGGCTGTAATC  
TGAAGATCTTCAACAACCAGGAATTTGCTGCTCTTCTGGCTCAGTCTGTTAATCAGGGTTTTGAAGCCGTCTATC  
AGCTAACTAGAATGTGCACCATAAGAATGAGTTTTGTGAAAGGGTGGGGAGCAGAATACCGAAGGCAGACGGTAA  
CAAGTACTCCTTGCTGGATTGAACTTCATCTGAATGGACCTCTACAGTGGTTGGACAAAGTATTAAGTCAAGTGG  
GATCCCCCTCAGTGCCTTGCTCAAGCATGTCATAAAGCTTCACCAATCAAGTCCCATGAAAAGACTTAATGTAAC  
AACTCTTCTGTCATAGCATTGTGTGTGGTCCCTATGGACTGTTTACTATCCAAAAGTTCAAGAGAGAAAACAGCA  
CTTGAGGTCTCATCAATTAAAGCACCTTGTTGAATCTGTTTCTATATTGAAATATTAGATGGGAAAATTAGTGT  
CTAGAAATACTCTCCCATTAAGAGGAAGAGAAGATTTTAAAGACTTAATGATGTCTTATTGGGCATAAACTGA  
GTGTCCCAAAGGTTTATTAATAACAGTAGTAGTTATGTGTACAGGTAATGTATCATGATCCAGTATCACAGTATT  
GTGCTGTTTATATACATTTTTAGTTTGCATAGATGAGGTGTGTGTGCGCTGCTTCTTGATCTAGGCAAACCTT  
TATAAAGTTGCAGTACCTAATCTGTTATTCCCCTTCTCTGTTATTTTTGTGTGTCTTTTTTAATATATAATATA  
TATCAAGATTTTCAAATTATTTAGAAGCAGATTTTCTGTAGAAAACTAATTTTTCTGCCTTTTACCAAAAATA  
AACTCTTGGGG



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**FIGURE 5067**

TCCTCTTCCCTAAGCAGCCTGAGGGTTGACTGGATTGGTGAGGCCCGTGTGGCTACTTCTGTGGAAGCAGTGCT  
GTAGTTACTGGAAGATAAAAGGGAAAGCAAGCCCTTGGTGGGGGAAAGTATGGCTGCGATGATGGCATTTCCTTAG  
GACACCTTTGGATTAATAATGAAAACAACACTACTCTCTGAGCAGCTGTTCTGAATCATCTGATATTTATACTGAATG  
AGTTACTGTAAGTACGTATTGACAGAATTACACTGTACTTTCTCTAGGTGATCTGTGAAAATGGTTTCGCTATTCT  
ACTTGACCCGGAGAACCCACGAAATCATGCAAATCAAGAGGTTCCAATCTTCGTGTTCACTTTAAGAACAACCTCG  
TGAAACTGCTCAGGCCATCAAGGGTATGCATATACGAAAAGCCACGAAGTATCTGAAAGATGTCACTTTACAGAA  
ACAGTGTGTACCATTCGACGTTACAATGGTGGAGTTGGCAGGTGTGCGCAGGCCAAGCAATGGGGCTGGACACA  
AGGTCGGTGGCCCAAAAAGAGTGCTGAATTTTTGCTGCACATGCTTAAAAACGCAGAGAGTAATGCTGAACCTTAA  
GGGTTTAGATGTAGATTCTCTGGTCATTGAGCATATCCAAGTGAACAAAGCACCTAAGATGCGCCGCCGGACCTA  
CAGAGCTCATGGTCGGATTAACCCATACATGAGCTCTCCCTGCCACATTGAGATGATCCTTACGGAAAAGGAACA  
GATTGTTTCCTAAACCAGAAGAGGAGGTTGCCCAGAAGAAAAAGATATCCCAGAAGAACTGAAGAAACAAAAACT  
TATGGCACGGGAGTAAATTTCAGCATTAAATAAATGTAATTAAAAGGAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5068**

MVRYSLDPENPTKSCKSRGSNLRVHFKNTRETAQAIGMHIRKATKYLKDVTLQKQCVPFRRYNGGVGRCAQAKQ  
WGWTQGRWPKKSAEFLHMLKNAESNAELKGLDVDSLVIHQVNKAPKMRRRTYRAHGRINPYMSSPCHIEMIL  
TEKEQIVPKPEEEVAQKKKISQKKLKKQKLMARE

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**FIGURE 5069**

GCTGAGCATCGCCAGGGCGGGCGGCAGGGCGGGCCTCTCCGCCGGGTGTACCTCCTGTCGCGGCGCGAGACCTC  
TGGTGAAGAAAAAGATGTTGTCCCGGTTAAGAGTAGTTTCCACCACTTGTAACCTTTGGCATGTGACATTTGCACA  
TAAAGAAAAAGGCAAGCCACTTATGCTGAACCCAAGAACAAACAAGGGAATGGCATTCTTTACAAGAACGAC  
AAATGCTTGGTCTTCAAGGACTTCTACCTCCCAAAATAGAGACACAAGATATTCAAGCCTTACGATTTTCATAGAA  
ACTTGAAGAAAATGACTAGCCCTTTGGAAAAATATATCTACATAATGGGAATACAAGAAAGAAATGAGAAATTGT  
TTTATAGAATACTGCAAGATGACATTGAGAGTTTAAATGCCAATTGTATATACACCGACGGTTGGTCTTGCCTGCT  
CCCAGTATGGACACATCTTTAGAAGACCTAAGGGATTATTTATTTTCGATCTCAGACAGAGGTCATGTTAGATCAA  
TTGTGGATAACTGGCCAGAAAATCATGTTAAGGCTGTTGTAGTGACTGATGGAGAGAGAATTCTGGGTCTTGGAG  
ATCTGGGTGTCTATGGAATGGGAATTCAGTAGGAAAACCTTGTGTTGTATACAGCTTGTGCAGGAATACGGCCTG  
ATAGATGCCTGCCAGTGTGTATTGATGTGGGAACGTATAATCGCACTCTTAAAAGACCCATTTTACATGGGCT  
TGTACCAGAAACGAGATCGCACACAACAGTATGATGACCTGATTGATGAGTTTATGAAAGCTATTACTGACAGAT  
ATGGCCGGAACACACTCATTTCAGTTCGAAGACTTTGGAAATCATAATGCATTCAGGTTCTTGAGAAAGTACCGAG  
AAAAATATTGTACTTTCAATGATGATATTCAAGGGACAGCTGCAGTAGCTCTAGCAGGTCTTCTTGCAGCACAAA  
AAGTTATTAGTAAACCAATCTCCGAACACAAAATCTTATTCCTTGGAGCAGGAGAGGCTGCTCTTGGAAATTGCAA  
ATCTTATAGTTATGTCTATGGTAGAAAATGGCCTGTCAGAACAAAGAGGCACAAAAGAAAATCTGGATGTTTGACA  
AGTATGGTTTATTAGTTAAGGGACGGAAAGCAAAAATAGATAGTTATCAGGAACCATTTACTCACTCAGCCCCAG  
AGAGCATACCTGATACTTTTGAAGATGCAGTGAATATACTGAAGCCTTCAACTATTATTGGAGTTGCAGGTGCTG  
GCCGTCTTTTCACTCCTGATGTAATCAGAGCCATGGCCTCTATCAATGAAAGGCCTGTAATATTTGCATTAAGTA  
ATCCTACAGCACAGGCAGAGTGCACGGCTGAAGAAGCATATACACTTACAGAGGGCAGGTGTTTGTGTTGCCAGTG  
GCAGTCCATTTGGGCCAGTGAACTTACAGATGGGCGAGTCTTTACACCAGGTCAAGGAAACAATGTTTATATTT  
TTCCAGGTGTGGCTTTAGCTGTTATTCTCTGTAACACCCGGCATATTAGTGACAGTGTTTTCTAGAAGCTGCAA  
AGGCCCTGACAAGCCAATTGACAGATGAAGAGCTAGCCCAAGGGAGACTTTACCCACCGCTTGCTAATATTCAGG  
AAGTTTCTATTAAACATTGCTATTAAAGTTACAGAATACCTATATGCTAATAAAATGGCTTTCCGATACCCAGAAC  
CTGAAGACAAGGCCAAATATGTTAAAGAAAGAACATGGCGGAGTGAATATGATTCCCTGCTGCCAGATGTGTATG  
AATGGCCAGAATCTGCATCAAGCCCTCCTGTGATAACAGAAATAGAAAGCACTCCCTGATAAATACTTTCTGTGCT  
CCAGGGAACCCCTTTTTTCAGACAAGAAGAGATAATGTCTTCAGTTTTAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5070**

MLSRLRVVSTTCTLACRHLHIKEKGKPLMLNPRTNKGMAFTLQERQMLGLQGLLPK IETQDIQALRFHRNLKKM  
TSPLEKYIYIMGIQERNEKLFYRILQDDIESLMP IVYTP TVGLACSQYGHIFRRPKGLFISISDRGHVRSIVDNW  
PENHVKAVVVDGERILGLGDLGVYGMGIPVGKLCLYTACAGIRPDRCLPVCIDVGTDNIALLKDPFYMGLYQKR  
DRTQQYDDLIDEFMKAITDRYGRNTLIQFEDFGNHNAFRFLRKYREKYCTFNDDIQGTAVALAGLLAAQKVISK  
PISEHKILFLGAGEAALGIANLIVMSMVENGLSEQEAQKKIWMFDKYGLLVKGRKAKIDSYQEPFTHSAPESIPD  
TFEDAVNILKPSTIIGVAGAGRLFTPDVIRAMASINERPVIFALSNP TAQAECTAEEAYTLTEGRCLFASGSPFG  
PVKLT DGRVFTPGQGNNVYIFPGVALAVILCNTRHISDSVFLEAAKALTSQLTDEELAQGRLYPPLANIQEV SIN  
IAIKVTEYLYANKMAFRYPEPEDKAKYVKERTWRSEYDSL LPDVYEWPE SASSPPVITE

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**FIGURE 5071**

GCTAGGGCGCGGCGGGCGGTTTGAATTTTGCTTACAGAGTCCCGTCTCACCATCCTGGGCTTCCAACGGAGACTG  
CGGTATCCGCAGCTGGAGACCCAGCGGCGAGTAGCCTTTTGCTCCCGGACGGACTTGAGGTTGGAGTCTGTGTGT  
TGGGGACCCTGCCTTTGGAAGCGCCCGAGAGGCTTAAAGGATGGCCTCGTCAGATCTGGAACAATTATGCTCTCA  
TGTTAATGAAAAGATTGGCAATATTAAGAAAACCTTATCATTAAAGAACTGTGGCCAGGAACCTACCTTGAAAAC  
TGTATTAAATAAAATAGGAGATGAGATCATTGTAATAAATGAACTTCTAAATAAATTGGAATTGGAAATTCAGTA  
TCAAGAACAAACCAACAATTCCTCAAGGAACCTCTGTGAATCTCTTGAAGAAGATTACAAAGACATAGAACATCT  
TAAAGAAAACGTTCCCTTCCCATTTGCTCAAGTAACAGTAACCCAGAGCTGTGTTAAGGGATCAGATCTTGATCC  
TGAAGAACCAATCAAAGTTGAAGAACCTGAACCCGTAAAGAAGCCTCCCAAAGAGCAAAGAAGTATTAAGGAAAT  
GCCATTTATAACTTGTGATGAGTTCAATGGTGTTCCTTCGTACATGAAATCCCGCTTAACCTATAATCAAATTAA  
TGATGTTATTAAAGAAATCAACAAGGCAGTAATTAGTAAATATAAAATCCTACATCAGCCAAAAAGTCTATGAA  
TTCTGTGACCAGAAATCTCTATCACAGATTTATTGATGAAGAAACGAAGGATACCAAAGGTCGTTATTTTATAGT  
GGAAGCTGACATAAAGGAGTTTCACTACTTTGAAAGCTGACAAGAAGTTTACGTGTTACTGAATATTTTACGACA  
CTGCCGGAGGCTATCAGAGGTCCGAGGGGGAGGACTTACTCGTTATGTTATAACCTGAGTCCCTTGTGAACCTTT  
GAACATACCAACAGGGTATAGAGTATAGAGGCTATTTCTATAATTTTCTTATATATAATTTTTTTAACTTTTAAT  
CTTTTTTGTTCCTTTTTTTTTTTTTTTTGAGACAGGATCTTGCTTTGTCACCCAGGGGCTTGCTTTGTCACGCAGG  
CTAGAGTGCAGTGGCGCAAACATGGCTCACTGCAGCCTCAACCTCCAGGCTCAAGTGATCCTCCACCTCAGCC  
CCCTGAATGGCTGGGACTACAAGCGTGCGCCACCATGCCTGGCTAATTTTTGTATTTTTTGGAGAGATGGGGTTT  
CACCATGTTGCCTAGGCTGGTCTTGAGCTCCTGAGCTCAAACAATCCACCCTCCTCAGCCTCCCAAAGTGCTGGG  
ATTACAGGCTTGAGCCACCACACCTGACCTATTCTTGTCTTCTATAAAAATAAACTTTTTTGGATAAAGCTTAT  
TTCTTGTTTTTTCTTTTTCTTTTTTTTTTTTTTTTGAGACAGTCTCGCTCTTTCACCCAGGCCGGACTGCAGCGG  
CGCTATCTCGGCTCACTGCAAACCTCTGCCTCCCAGGTTACGCCATCCTCCTGCCTCAGCTACTCAGGAGAATTG  
CTTGAACCTAGGAGGTGGAGGTTGCAGTGAGCCGAGATCGTGCCACTGCACTCCAGTCTGGGCAACAGAGCGAGA  
CTCCATCTCAGAAAAAAGAAAAAAGACTGGGTACAGATGTGATATTGGAAGAAAAAGATCAAGCTGATGAGGT  
TAGGATACCCAGGCCCTTTGGACTTAAAGATCACTAGTGTCTAAATTCCATCGATGGCATTTCAGTCTATAGGTA  
AACTTCCTGGAAGCTGGATTTGGAGACAGTTTATCATCTGATTATTGGGCTTTTCGTATAGGTCCTTAGGGAGCAG  
CTTACCTGAAATGCATTTAGTGACACCAGTCTGTAACTTCAACCTGTAATGAAAGTGTAATAAATGTACATTG  
AGTTGATGTGATAATGTGATATAATAAGAAATATATATTGATCTTCCTATCTAGTTCCTTGTTTCAGAGCTCCTA  
AAACCCTTGTAATTTCCAAAGTGATGGAGTACATCTTTTGTCTAGTATTGGTCTTTGACCCAGTTCCTTGACA  
CAAAGCTCCTAAATTCCTTTAAATTTCCCAGTGATAGGAGAATTTTTTGTCTAATGAGGTCACTCTTGATGGGQ  
ACCTGGATAACTCAGGATGGGGGCTGCTCACAAAGACCACATCATGATTGGAAGTTTCAAACCTTTCAGTCTCCCA  
CCTCCAGAGAGGGGAGAGGGGCTGGAGATTTGTGTCAATAATCCATCAGGCCTATGTCAACAAGACATAATCCGT  
TAACTATGGAGTTCAGGGAGCTTCAGGGTTGGCAAACATTTTGATGTGCCAGGAAGGTGACGCACTCCAGCTTTA  
TGAAGTCAGCAAGTCCTGTGCTCAGGATGCTTCTGGACCTTGCCCCAGGTACCCCTTCATGTGGCTGTTGTTTCA  
CTGTATCCTTTGTAGTAGCCTTAAATAAACTGTAAACAC

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**FIGURE 5072**

CCGACATGTTGAGTCATAAGACGCGTCGGTGTTGCAGTCTGTGTCCTTGGAGGTGACCAGGGCCACTGCAGGCAT  
GGTGCTAGCAGAGCTGTACGTCTCTGACCGAGAGGGAAGCGATGCCACGGGAGATGGAACCAAGGAGAAACCATT  
TAAACAGGTCTAAAGGCTTTGATGACAGTAGGGAAAGAACCATTTCCTACCATTTACGTAGATTACAAAAAGA  
AAATGAGAGGTGGAATGTTATTTCTAAATCACAGTTGAAGAACATTAAAAAGATGTGGCATAGGGAACAAATGAA  
GAGTGAATCCCGGGAAAAGAAAGAGGCAGAAGATAGTTTACGAAGAGAAAAGAACCTGGAAGAAGCAAAAGAAGAT  
TACCATTAAAAATGATCCAAGTCTCCCAGAGCCAAAATGTGTGAAGATTGGTGCCTTAGAAGGATATAGAGGCCA  
AAGAGTAAAGGTGTTTGGCTGGGTCCACAGGCTGCGCAGGCAAGGAAAGAATTTAATGTTTCTGGTGTTGCGAGA  
TGGTACAGGTTATCTTCAGTGTGTCTTGGCGGATGAGTTGTGTGCTGCTACAATGGAGTTCTCTTGTCCACGGA  
GAGCAGTGTTCAGTGTATGGAATGCTAAATCTTACCCCAAAGGGCAAGCAGGCTCCAGGTGGCCATGAGCTGAG  
TTGTGACTTCTGGAACTAATTGGGTGGGCCCTGCTGGAGGAGCTGACAACCTGATCAATGAGGAGTCTGACGT  
TGATGTCCAGCTCAACAACAGACACATGATGATCCGAGGAGAAAACATGTCCAAAATCCTAAAAGCACGATCCAT  
GGTCACCAGGTGCTTTAGAGATCACTTCTTTGATAGGGGTACTATGAAGTTACTCCTCCAACATTAGTGCAAAC  
ACAAGTAGAAGGTGGTGCCACACTCTTCAAGCTTGACTATTTTGGGGAAGAGGCATTTTGGACTCAATCCTCTCA  
GTTGTACTTGGAGACCTGCCCTCCAGCCCTGGGAGATGTTTTTTGTATTGCTCAGTCATACCGGGCAGAGCAGTC  
CAGAACACGAAGGCACCTGGCTGAGTACACTCAGTGGAAGCTGAGTGTCTTTCTGACTTTTGACGACCTCCT  
GAACCGGTTGGAGGACTTGGTTTGTGATGTGGTAGATCGAATATTGAAGTCACCTGCAGGGAGCATAGTGCAATGA  
GCTCAACCCGAACCTTCAGCCCCCAAACGGCCTTTCAAACGGATGAACATTTCAGATGCTATCGTTTGGCTAAA  
AGAACATGATGTAAAGAAAGAAGATGGAACCTTTCTATGAATTTGGAGAAGATATCCAGAAGCTCCTGAGAGACT  
GATGACAGACACCATTAATGAACCAATCTTGCTGTGTGCGATTTCTGTGGAGATCAAGTCCTTCTACATGCAGCG  
ATGTCTTGAGGATTCCCGTCTTACTGAATCTGTGCGACGTGTTGATGCCAATGTTGGTGAGATTGTGGGAGGCTC  
AATGCGTATCTTTGATAGTGAAGAAATACTGGCAGGTTATAAAAGGGAAGGGATTGACCCCACTCCCTATTACTG  
GTATACGGATCAGAGAAAATACGGTACATGTCCCATGGAGGATATGGCTTGGGCTTGGAACGATTCTTAACGTG  
GATTCTGAATAGGTATCACATCCGAGACGTGTGCTTATACCCTCGATTTGTCCAGCGTTGCACGCCATTAACCAT  
TTCTCCAGAAGCGTGGAGGAAAGATTATGAAAGGAACAGGCTCTTTAAAAAAGAAAACAAAAAGCCAGAATCTTC  
CTTTTTTTTGTTCATTGGGGTTTCTCTTTCTGTTTTTCTTTCTACTACCATAAAAACTATCTCAAATCACCTGA  
ACATCAAGTGATATTAAGGTTGTCATCTTAAGAAAAAATATCCATTTTTTTCTTAAGTTCGGGAAACAAAGTTG  
GGGAAATACCTGGCATGAACTGTAGTTAGGGATACATTTACGATTTTACTCACTTTATCCAAGTTATTCTTCT  
TTATTCAAGTTATATGTATGTATAATTCAACAATTTTAGATTATGGTGTAAAGATACTCCAGTAACCTTATCTTCT  
GTCCTTTTAAGTGACCTGGAATTCCTTGATTTATTTTATTGCATCAATGAATTAACAAAAATCTTGGGGGAA  
GAAATTGGCAATATCGTATAAAAAATCTGCTCATATTAGAACACAGTATAATTCAGCAGTAAACACTAGAAATCAA  
TGAATAGCCTTTTGTATCAGTTATTAATCTTTTCTAACTCTGCTTAGCTGCTAATAATCCTGAGGCATAGAAAT  
GAAGAATTTGTAAAAATAGAATTGCCTTAAAGGATTTGAAGTAAGAACATAATTTTGGGGAGAGTTTTTTAGTGA  
TTCACAGTATCCCTCTTAGCATTAAATTTAAGGTAAAGAGGCAGATTGATTTTCCCTCTTTCTGGTAATTCCTAA  
GTAATTAAGAATAAATAAGTTCCAAAAGAAATTGTAGCTGGAATCTTAATAACAATTGTGAGTGGCTGTTTGTAGT  
TGCCCCCACCATGTCCTTAGATCTAATCTGTGCTACCTTATTAACCTCACAGCAGGCTTACTGAATGGCTTCATTT  
CAGATTTAGTTGATTTCTCCACCAAATGCATGTATGTATTCTCAATAGGCTGTATTCCCAGCAGTCAATAAATG  
AACACCCGTAAAAA

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**FIGURE 5073**

MVLAELYVSDREGSDATGDGTKEKPFKTGLKALMTVGKEPFPTIYVDSQKENERWNVISKSQKNIKKMWHREQM  
KSESREKKEAEDSLRREKNLEEAKKITIKNDPSLPEPKCVKIGALEGYRGQRVKVFGWVHRLRRQGKNLMFLVLR  
DGTGYLQCVLADELQCYNQVLLSTESSVAVYGMLNLTPKGKQAPGGHELSCDFWELIGLAPAGGADNLINEESD  
VDVQLNNRHMMIRGENMSKILKARSMVTRCFRDHFFDRGYEYVTPPTLVQTQVEGGATLFKLDYFGEEAFLTQSS  
QLYLETCLPALGDVFCIAQSYRAEQSRTRRHLAEYTHVEAECPFLLTFDDLLNRLEDLVCDVVDRIKSPAGSIVH  
ELNPNFQPPKRPFKRMNYSDAIVWLKEHDVKKEDGTFYEFGEDIPAPERLMTDTINEPILLCRFPVEIKSFYMQ  
RCPEDSRLTESVDVLMFNVGEIVGGSMRIFDSEEILAGYKREGIDPTPYWYTDQRKYGTCPHGGYGLGLERFLT  
WILNRYHIRDVCLYPRFVQRCTP

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**FIGURE 5074**

CGGCCAGCGACGCGGTTACCTCCTGCTGTCTCGCCCTCGCCCCGCGAGCTGCCCCGACGCGAGATGTCTTA  
TTTACCAACAAATCCACCAGGGAGCATTCTTATTTGCTGGCTCGGCGTCTCTCTCAGCAGTCACCGGAGTGCCGG  
AGGGGGAAGCGGATTTACGGAAGACTATTACCCAGAAGAAAAGATGTTTGTTTTTTACAAGCCAAAGATGTACC  
GAAGTATAGAGGGCTACTGTATTTGCAGAGCTAAGTCCTCCAGTTCTCGATTCACTGACAGTAAACGCTATGAAA  
AGGACTTCCAGAGCTGTTTGGATTGCATGAGACTCGTTCAGGAGACATCTGCAATGCCTGTGTCTGCTTGTGAA  
AAGATGGAAGAAGTTGCCAGCAGGATCAAAAAAAAAAACTGGAATCATGTGGTAGATGCAAGGGTTGGACCCAGT  
CTAAAGACTACATTGAAACCAAGAAAGTGA AAACTCTATCTGGGAACAGGATAAAAAGCAACCAGATCAGTAAA  
CTGCAGAAGGAATTTAAACGTCATAATTCTGATGCTCACAATACCACCTCAAGTGCCTCCCCAGCTCCATCTCCT  
CGTTACAGTAACCAGTCAGATGACGGCTCAGATACAGAGATGGCTTCTGGTTCTAACAGAACACCAGTTTTTTTCC  
TTTTTAGATCTCACATACTGGA AAAAGACAGAAAGATATGTTGTGGGATCAACTATAAAGGCCGTTTTTGGGGAACTC  
CTCATTGACACACATCCCTTCAAGCCTTGCTGCAGCAATAAGAAAGCAGCTGCCGAGAAGCCAGAGGAGCAGGGG  
CCAGAGCCTCTGCCCATCTCCACTCAGGAGTGGTGACTGAGGTTTTTATGTAGAAGGGGAACAAAAAAATCTGA  
ATTTTTGAAAAGACCACAAAGCAGCAAACTGACCCTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTGGAGACGGAGTTT  
TGCTCTTGTTACCCAGGCAGGAGTGCAGTGCGTGATCTTGGCTCACTGCAACTTCCGTCTCCCGGGTTCAAGTG  
ATTCTCCTGCCTTAGCCTCCCAAGTAGCTGGGTTTATATGTGCCCGCCACCAGACCCGGCTAATATTTTAGTTTT  
AGTAGAGACGGGGTTTACCACATTGGCCAGGCTGGTCTCAAATGACCCTCTTATTTTTAACTTGGATACCTGCT  
ATTCTGCCAAAAGACAATTTCTACAGTAGTTTTGAATGGGTTGATATCCCCTAGTCCCACAACTCTGAAGCCAG  
TGTCCAGCTTACTAAAAAAGAGTGGTACATAATTTAAGATGCTGAGTATTTCATAGGAAAGATGAATGCTGC  
TGTAAGTACTCTTTAAGTCTTTTTTTTTTTTAAATCCCTTCTAATGAATGAAACTAGGGGAATTTAGGGGACA  
GAGATGGGATTTGTTGTATGATAAACTGTATGTAGTTTTTAGTCTTTCTGTATTGAGATGCAGTGGTTGGGGCAT  
TTTTAAGATGGCTGGCTACTTGTTTTCCCTCATGATAATAAATTTGTCATAACTCAGTAACATGAACTGCCCCCT  
AGAGGTAGTTGTTAATGATTTTGAAATATTAAGGTCTTGCCAAGCTTGATGATTCAAACCTGTACTACTGATT  
ATTAAGCAGGACAGACTGAGCTTTCTGTTGCAAATACCTTGGAGGAGAAAGTAACTTCTAAATATACAGAGAGGT  
AACTTGACTATATATGTTGCATCCTGTGCCTCCCTTCATATTAATATTTGATAAAGATTTTAATTTTTGTAAAC  
TTCTAAAGCAGAATCAAAGCTCCTCTTGGGGAAATGGCAAGTCTTAGGACAGGCGAGACCCTGTATGAATAGTA  
CCAAAGCATTACCGCATGGTAGAGAACACACTCGATTAAAAATGTTAAGCTATCTGAAAAATAAAATGTACAAGT  
CCTCAGGATGGCACAAAACAAAGGTTAATGCTTCTTGGGGCACATTTCTTAGAGGGCTTGCTGAGTGTGTAAATA  
TAATCGACTTTTGTGTTGTGTTCTGTGACTTCATTGAAAATCTTTACAATTCAGTTTCAGCTCTGGATTACTTCAG  
TTGACCTTTGTGAAGGTTTTTATCTGTGTAGAATGGGTGTTGACTTGTTTTAGCCTATTAAGTTTTTATTTTCT  
TTCACTCTGTATTA AAAAGTAAAACTTACTAAAAGAAAAGAGGTTTGTGTTACATTAAATGGTTTTTGGTTTGGCT  
TCTTTTAGTCAGGCTTTCTGAACATTGAGATATCCTGAACTTAGAGCTCTTCAATCCTAAGATTTTTCAATGAAAAG  
CCTCTCACTTGAACCTAAACCAGAGTACTCTTACTGCCTCTTTTCTAAATGTTTCAAGGAAAAGCATCGCCAGTTCTG  
GTCTTTTTCAGAATGAGGGGAGAAAACATTTGCCTGCCTTGTAATAACAAGACTCAGTGCTCATTTTTTAACTGCAT  
TTTAAAAATTTGGATAGTATAATAACAATAAGGAGTAAGCCACCTTTTATAGGCACCCTGTAGTTTTATAGTTCTT  
AATCTAAACATTTTATATTTTCTTCTTTTGGAAAAACCTACATGCTACAAGCCACCATATGCACAGACTATACA  
GCGAGTTGAGTTGGCTTCTCCACAGTCTTTGAGGCGAATTACAAAAGTCCAGCCATTATCATCCTCCTGAGTTA  
TTTTGAAATGATTTTTTTGTACATTTTGGCTGCAGTATTGGTGGTAGAATATACTATAATATGGATCATCTCTAC  
TTCTGTATTTATTTATTTATTACTAGACCTCAACCACAGTCTTCTTTTTCCCTTCCACCTCTCTTGCCTGTAG  
GATGTACTGTATGTAGTCATGCATTTGTATTAATATATTAGAAATCTACAGATCTGTTTTGTACTTTTTTATACT  
GTTGGATACTTATAATCAAACTTTTACTAGGGTATTGAATAAATCTAGTCTTATTAGAAAATAAAAAAAGAA  
AGAAA



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**FIGURE 5075**

GCTGTCCTCGCCCTCGCCCCGGCGAGCTGCCCCGACGCGAGATGTCTTATTTACCAACAAATCCACCAGGGAGC  
ATTCTTATTTGCTGGCTCGGCGTCTCTCTCAGCAGTCACCGGAGTGCCGGAGGGGGAAGCGCGATTTACGGAAGA  
CTATTACCCAGAAGAAAAGATGTTTGTTTTTTCACAAGCCAAAGATGTACCGAAGTATAGAGGGCTACTGTATTTG  
CAGAGCTAAGTCCTCCAGTTCTCGATTCACTGACAGTAAACGCTATGAAAAGGACTTCCAGAGCTGTTTGGAATTG  
CATGAGACTCGTTCAGGAGACATCTGCAATGCCTGTGTCTGCTTGTGAAAAGATGGAAGAAGTTGCCAGCAGGA  
TCAAAAAAAAAAACTGGAATCATGTGGTAGATGCAAGGGTTGGACCCAGTCTAAAGACTACATTGAAACCAAAGA  
AAGTGAAAACCTCTATCTGGGAACAGGATAAAAAGCAACCAGATCAGTAAACTGCAGAAGGAATTTAAACGTCATA  
ATTCTGATGCTCACAAATACCACCTCAAGTGCCTCCCCAGCTCCATCTCCTCGTTACAGTAACCAGTCAGATGACG  
GCTCAGATACAGAGATGGCTTCTGGTTCTAACAGAACACCAGTTTTTTCCTTTTGTAGATCTCACATACTGGCCTC  
ATTGACACACATCCCTTCAAGCCTTGCTGCAGCAAT

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**FIGURE 5076**

ACTTCTGCCCTTTTGGCTCTCTGACCAGCACCATGGTGGTGGGCAAGAACAAGCACCTTACGAAAGGCGGCAAAA  
AGGGAGCCAAGAAGAAAAGTGGTTGATCCATTTTCTAAGAAAGATTGGTTTGACGCGAAAGCACCTACTACGTTCA  
ATATAAGAAATATTGGAAAAGACGCTCATCACCAGGACCCAGGGAACCAAAATTGCATCTGATGGTCTCAAGGGTC  
GTGTGTTTGAAGTGAGTCTTGCTGATTTGCAGAATGATGAAGTTGCATTTAGAAAATTCAGCTGATTACTGAAGA  
TGTTTCAGGGCAAAAACCTGCCTAACTTCCATGGCATGGATCTTACCCATGACAAAATGTGTTCCATGGTCAAAAAA  
TGGCAGACAATGATTGAAGCTCATGTTGATGTCAAGACTACCGATGGTTACTTGCTTCGTCCTTTTCTGTGTTGGT  
TTTACTAAAAAACGCAGCAATCAGATACGGAAGACCTCTTATGCTCAGCAACAACAGGTCCGCCAAATCCGGAAG  
AAGATGATGGAAATCATGACTCGAGAGGTGCAGACAAATGACGTGAAAGAAGTGGTCAATAAATTGATTCCAGAC  
AGCATTGGAAAAGACATAGAAAAGACTTGCCAATCTATTTATCCTCTCTATGATGTCTTCGTTAGAAAAGTAAAA  
ATGTTGAAGAAGCCCAAGTTTGAAGTGGGAAAGCTCÀTGAGCTTCATGGTGAAGGCAGTAGTTCTGGAAAAGCT  
GCTGGGGACGAGACAGGTGCTAAAGTTGAATTGAGCTGATGGATATGAACCACCAGTCCAAGAATCTGTTTAAAGT  
TCAGACTTCAAATAGTGGCAAATAAAAAGTGCTATTTGT

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**FIGURE 5077**

MDLTHDKMCSMVKKWQTMIEAHVDVKT TDGYLLRLF CVGFTKKRSNQIRKTSYAQQQQVRQIRKKMMEIMTREVQ  
TNDVKEVVNKLIPDSIGKDIEKTCQSIYPLYDV FVRKV KMLKKPKFELGKLMELHGE GSSSGKAAGDET GAKVE

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**FIGURE 5078**

ATGAAAGAGGCCATCGGATGCGAGGACATCAGCCCAGTAACTTTGAGGGAAGAAGGTTTTCTTCCCCTGCTGCC  
TATGCCGTGGGGTTTGAGCACGTCTCTCGGGGGGAAGTCATGGCCCATAGCCAGCTTGCTGCAATGGAAGCGATG  
CTTACAGTAAGGCGAGTTCCCTGGACACGATATATGAGAGTGAGGACACAGTGCCAGAGTTGGGAGTTGACCGA  
ACCTACCTTCAGATGGGATTTCTGCTTGAAAACCAGGAAGCAGAACTCAGATGTGAATTACGCTTTCTAGACATT  
CAACTGCTATCAAAGAATAATTGCCATGCTAAATTATTTATATTTGTGGAGCAAATGACTTTAGGCACTAAGGCT  
TTTATCTCTTCCCCTGAGGAACCTTTTGAACCTTTGTTTTCTTGAACCTCTATGCCATCCAGGCAGGGGGATTAGAA  
GAACCTCCTAATCTGAGTAATTTGAATAAACTGAGGGAAATTGTGAAAAGAAAGATTACAAGGTGATGAAAAAG  
AGAGTAGATAATGAAGAGGGTGTA AAAACTTATAAGGTACTGGAAAGGGCAGCCATGAAATTCCTGACCATGGAA  
CCCAAACTGAGAGATGACAGACTTGAAGGATATGGAGAAAAAGATTCAAGTTCTTGGCGGAGAAGGTCATGTTCA  
GAAGCAAGTAAGGTAGTGAGAGCGTACTTACAACCTATCGTGTGGAAGCTGCTCAGTGATGAGACTGGGAAAGAT  
GAATATGCGTACGCTCTTTCACTCACAGCAAATCACTAAGCTTCTCTGAGGGTATAGGATACTTTCTTTTCTAT  
GGGTCAGTGATGGTCATTACTGGAAGTTCCCATCACTTCCCAGGTCCATCTTCCTGTGCTGGAGAACAAACCTAAA  
CACGAGGGTTGGGGAACTTGA

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**FIGURE 5079**

MKEAIGCEDISPVTLREEGFPSAAYAVGFEHVSERGEVMAHSQLAAMEAMLTVRRVPWTRYMRVRTQCPELGVDR  
TYLQMGFLLLENQEAELRCELRFIDQLLSKNNCHAKLFI FVEQMTLGTKAFISSPEEPFELCFLELYAIQAGGLE  
EPPNLSNLNKLREIVEKKDYKVMKKRVDNEEGVKTYKVLERAAMKFLTMEPKLRDDRLEGYGEKDSSSWRRRSCS  
EASKVVRAYLQLIVWKLLSDETGKDEYAYALSLTAKSLSFSEGIGYFLFYGSVMVITGSSHHFPVHLPVLENKPK  
HEGWGN

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**FIGURE 5080**

ATGGTCATGGAATTAAAAATATGGTCCCTTTGTTGCAGACTTTGCTGATAAACTCAATGAGCAAAACCTTGCC  
CAACTAGAAGAGGCGAAGCAGGCTTCCATCCAACAAATCCAGAATGCAATTGATATGGAGAAGTCACAACAGGCA  
CTGGTTCAGAAGCGCCATTACCTTTTTGATGTGCAAAGGAATAACATTGCTATGGCTTTGGAAGTTACTTACCGG  
GAACGACTGTATAGAGTATATAAGGAAGTAAAGAATCGCCTGGACTATCATATATCTGTGCAGAACATGATGTGT  
TGA

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**FIGURE 5081**

MVYGIKKYGPVADFADKLNEQNLAQLEEAQASIQQIQNAIDMEKSQQALVQKRHYLFDVQRNNIAMALEVTYR  
ERLYRVYKEVKNRLDYHISVQNMMC





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**FIGURE 5083A**

AATCTGAGAGAGGCCGAGTGGAGTTCGGTCCTTCTCTGAACACTTTTAGCTGAGAGTACCAGCATCCAACCTGGGA  
GCGTTGTCATTGCATTTCCACATTCCCAGGAAAGCCCAGGTGCTGGCTGCCAGCTGCTGCGCCCCCATGTAGAA  
GGTGCACCTCCTGGGAGCAGGCACGTCTTTTGGCTCTTCTGACCATGGAGAGATAGGACGGTCCCTGCAGCCCCG  
GCGACAGAAAGCTGTGCCGCCACCACCGGCCGCGCCCTCCTTCGGATGGATCGCAACAGAGAGGCCGAGATGGA  
GCTGAGGCGAGGCCCCAGCCCCACCAGGGCCGCGGGGCCACGAGGTGGATGGGGACAAGGCTACCTGCCACAC  
CTGCTGCATCTGCGGCAAGAGCTTCCCCCTTCCAGAGCTCGCTTTCGCAGCACATGCGCAAGCACACGGGCGAGAA  
GCCCTACAAGTGTCCCTACTGCGACCACCGGGCTTCCCAGAAGGGCAACCTGAAGATTACATCCGGAGCCACCG  
CACGGGGACTCTGATTAGGGACACGAGCCGGAGGCGGGCGAGGCGCCGCTGGGTGAGATGCGCGCCTCCGAGGG  
CCTGGACGCTGCGCCAGCCCCACCAAGAGCGCTCGGCCCTGCAACCGGCTGCTGAACGGGGCCTCGCAGGCCGA  
CGGCGCCAGGGTCTTGAACGGGGCCTCGCAGGCCGACAGCGGCAGAGTCTGCTGCGGAGCAGCAAGAAGGGGGC  
AGAGGGGTCCGCATGCGCCCCGGGGGAGGCCAAGGCAGCGGTCCAGTGCTCCTTCTGCAAGAGCCAGTTCGAGCG  
TAAGAAGGACCTGGAGCTGCACGTGCACCAGGCGCACAAAGCCGTTCAAGTGCAAGGCTGTGCAGCTACGCGACGCT  
GCGGGAGGAGTCTGCTGCTGAGCCACATCGAGAGGGACCACATCACCGCGCAGGGGGCCCGCAGCGCGAGGCCCTG  
CGTGAGAACGGCAAGCCGAGCTGAGCCCCGGGGAGTTCCCGTGCGAGGTGTGTGGCCAGGCCTTCAGCCAGAC  
CTGGTTCCTGAAGGCGCACATGAAGAAGCACCGGGGCTCCTTCGACCACGGCTGCCACATCTGCGGCCGTAGGTT  
CAAGGAGCCCTGGTTTCTCAAGAACCACATGAAGGCGCACGGCCCCAAGACGGGCAGCAAGAACAGGCCCAAGAG  
TGAGCTGGACCCCATCGCCACCATCAACAACGTGGTCCAGGAGGAGGTGATCGTCGCCGGCCTGAGCCTCTACGA  
GGTCTGCGCCAAGTGCGGGAACCTGTTTACAAACCTGGACAGCTTGAACGCCCAATGCCATCCACCGCAGAGT  
CGAGGCCAGCCGCACGCGCGCCCGGCCGAGGAGGGGGCGGAGGGGGCCCTCGGACACCAAGCAGTTCTTCTCCA  
GTGCTTGAACCTGAGGCCGTGCGCGGCCGGCGACTCGTGCCCTGGCACGCGAGGCCGCGGCGGGTGGCTGAGCT  
GGACCCGGTCAACAGCTACCAGGCCTGGCAGCTGGCCACGCGGGGTAAGGTGGCCGAGCCGGCCGAGTACCTCAA  
GTACGGGGCCTGGGACGAGGCGCTGGCCGGGGACGTGGCCTTCGACAAGGACAGGCGCGAGTACGTCTTGGTGAG  
CCAGGAGAAGCGCAAGCGTGAGCAGGATGCACCAGCCGCGCAGGGGGCCCCCGCGGAAGCGCGGAGCGGGCCTGG  
GGACCCCGCGCCCCGCGGCCACCTCGATCCCCGCTCGGCCGCGCGCCCCAACCGCAGGGCCGCGAGCCACCACCGG  
CCAGGGCAAGTCTCCGAGTGCTTCGAGTGCGGCAAGATCTTCCGCACCTATCATCAGATGGTGCTGCACTCACG  
CGTGATCGCCGCGCGCGCCGCGAGAGGGACAGTGACGGGGACAGGGCGCGCGGGCCCGCTGCGGATCACTCAG  
TGAGGGTGACTCGGCCTCCCAGCCCAGCAGCCCTGGCTCCGCCTGTGCCGCTGCTGACTCCCCGGGCTCTGGCCT  
GGCCGACGAGGCTGCCGAAGACAGTGGTGAGGAGGGCGCCCTGAACCTGCACCAGGGGGACAGCCGCGCCGCTG  
CTGCTTTTCCGAAGAGGTGACTTCGACCGAGCTCTCCAGTGAGAGACCAGAGTCACAAGATGGGAGATAACGCCTC  
GGAAAGAGACACCGCGAGTCCAAGGCAGGGATCGCAGCTTCTGTGTCCATACTTGAAAACAGTAGCAGAGAGAC  
TTCTAGAAGGCAAGAGCAGCACAGATTTTCTATGGACTTAAAGATGCCAGCATTTACCCCCAAGCAGGAGGTGCC  
CGTCCCTGGTGATGGTGTGGAGTTCCCTTXXCAGTACGGGAGCGGAGGGCCAGACGGGTACCCCTGCAGAAAAGC  
TGTCCGATTTGCACAACAAGGAACACTCTGGGGGAGGGAAGCGGGCGCTGGCCCCAGACCTCATGCCGCTAGATT  
TAAGTGCGAGGTGACGCGGGATGACCCAGCAATAAGGAGACGGCCTCCTCCCTGCAGGCGGCTTTAGTCGTTT  
ACCCGTGTCTTACTGCAGCCACAAGACCTACTACCCGAGGTCTGTGGATGCACAAACGCATCTGGCACCAGCG  
TCAGCTGCAACTCCGTGGCTCCCCCGTGATTACGCCCAATGGTTACAAAAGCATCAGAAGCAATTTXGGTTTTT  
CTTTCCCGGAGCGGACGACGGGGCCCCCGCTGCCCTCGGTGGCAAAGAATGCCAGCCTTTGCTCCTTGCTCXG  
GTTACCCGCACTCAGGTGCCAGGGGGGATGCCGGGGTCCAAAAGTGGCTCTTCTCCCCCTGGGAGTGGTCACAAA  
AGCCGCTAGCATGCCTAAGAATAAGGAGAGCCATTCCGAGGTCCCTGCGCTCTGTGGGCGCCCGGCCCTGACGG  
GTATCGACAGACCAAACCTTGTACGGCCAGGAGCCACATGGCGCGGCCACACAGGGGGCCCTGGCCAAGCCCAG  
GCAGGAGGCTAGCTCCAAACCGGTGCTGCCCCGCGXGTGGCGGGGGCTTCAGCAGGAGCGCCACCCCTACGCCCA  
CCGTATCGCCCGGGCTGGCGCGCAGCCCTCGGCCAATAGCAAGCCTGTGGAGAAGTTGGGGTCCCCCAGCGG  
GGGCTGGCTTTGCCCCACAAATAAGCACAGTGCCCCGGAATCCCTGAAAGCCAAATTCAGTGCTCAGCCTCAGG  
GTCCACCTCCTGCAAAGGGCGAAGGGGGCGCTCCTCCTTACCTCCCCGCGAGCCCCCTCGAAGGCAGCCCAGG  
AGCTGAGGACTCTGGCCACCTGTGCTGCGGGGTCCAGGGGGCAGCGGGCCTTGCAAGGCCAGCCGCGTGGCTG  
GGGCGCCCCCGTCTTACACTCCATCAAACAGGXAGCCGGTGGCCGAGGGGCATGAGAAGCGCCTGGACATCCT  
CAACAXTCTTTAAGACGTACATTXCAAAGGACTTTGCGACCCTTACCAGGGATGGGGTGTACGCGGCCCTGGG  
TTGGAGCACAGAGGGACACTCCGGACGCAGGCCCGGCCAGGAGAGTTTCGTCTGCATCGAGTGCGGAAAGAGCTTC

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**FIGURE 5083B**

CACCAGCCCGGCCACCTCAGGGCCACATGCGGGCACACTCAGTGGTGTGTTGAGTCCGATGGGCCTCGGGGTCT  
GAAGTTCATACCACCTCCGCAGACGCCCCAAACAAGGGAGAGACCATTCTAACACAGGTACCGTCCAGACAGTG  
CCTCTGAGAAAGGGAACCTAAAGGCGTGTGTTCCGACGCACCCAGGTCCCGTAACGGCCATTAGCAGTACCCCTC  
ACGATGTCCCAGCAGCCTCCACCTGTGACCTGGCCGCTCCATGGAAGAACAGCCGGGGAACCTCTGAGCAGACA  
CCTCACATCCCGAGCCGCTGCGCTGGAGTGGAACTGAAGGCAGATGCCTCTCCTTGTTAAACGTTTCAGAAATAA  
ATGAAGATGCTATATTCTAGAAATACATGTAGATACTATATACGCATTTACGTGCTCATCGTCCATAGTCCATA  
TTTTCTTATAATAAACAGTAGTACTGGCAGGCACAGTAGGGGCACAAGGCATCTGTCTTATTCAAGACAAGTTTG  
AGACACTGGAAAAAAGATACTTGTGTGTGTGTGGACAGAGTGGCGAGGCTGAGCACTGTACAGGGGCCTCC  
CATGTTAAGAGGGACTGTGGGGATGATGTCAGAACAAGACGTGGTGGATTGAGGTTGATCGAGTATTAATACTA  
CTGCCCTCCTTGTCTTAGTGGGTATTTAAATAGTAAATAAGAGAGAGGAAGGAGGTGACGTTTCAGGTGCTGTG  
GGAAGCAGGCTTGGCGGAGGGGTATGATGATGAGACCTCATTGTTCACTGGCTCCATCGCACTCCTCCCTGGGG  
CCGTGTGCCTGTTCCATTCTTCCCACCATTGCAACTGAGCGAATCTGGCAAAGGAGACACGTCTGTGGGAATGCG  
TAGATTCCGCCTCGGAAGAGAGCTAGCGCAA~~C~~ACTAAGAAAAGCAGGCTTCTTGTTTATTCTCAGGACCTTTTTG  
TAACAGGGCTACATTCTGCAAACTGCTTACAAAGGAAGACTATACGTCTTAACAAATTATTTAGCCACTGAGTCC  
TCCCGATTCCGACCTGTTTTAGTAATGGCAGAAGAATCCCTGAGCAGGTTTCAGGTGCCCTAGATGACTAGGGTGC  
TGAGCTCTGGCGCCTTCTGTCCCCACTCTTTGCCTCCCCGCCCTTCCCTGAGCCACCCAGCAAGTGGGTGTCT  
TTTCTCCCTGGGCCTGGTGACCTCCACAGGATGAGTGACTTTGTTTCATAAAGGGTGGGGATCACCAGCCCCTTGG  
GTGGGGGACGGCTTCATATACCTCTTCTCAGTAATGCAAATGCGAGTTTTTGTGGTGGGGGTTAAGGCCCATAA  
CAAAGGATCTTAAACCATGCAGTGACGCAATTGAAATGGTATTCCACAGATATAAATATTTTTCTTTTCCCATTG  
CCGTGACACTATGTGTGATGGTAATATTTCTGAGAGTTTCAGATTTTTGCACATATGATTTTATGCATTATCAAA  
AGTTACTGCTGCCTTGAATGAAAATGTTCTGTGAAATTTTTTGCAAAAAGCTTTACTAGGTTTTTTTTTAATTGTG  
AAATTTTGTAAGGCAGGAAATGGATTAAAACGAGCATGCTAAATATATTTTTTCAAAAAGCAATAATTTTACAT  
GTACAGAAATTATCCTAACCTTTAATACTGGCGAGAGCAACAGTTTACTTAATACGGTAATGGACTAGTGAGTT  
TTTGTAGACAGTGGGCTTCTGATACAAAGTCTTGTTTAAACACAGACACACACACACAAACACACACACACAC  
CCTAAAGTGTGGGTTTCTGTTCTAATGATTTGTTGAATATTATTATATTATTATTATTATTATTATTATTG  
TTATTGTTATTAGTAATGTTTGGTTCTGGATTCTACTTGTTACTGAGTTTAAATTACTTGACGGTTTCAGGTTACT  
TTGCAACACTTTCAAACGATGCAATGTAAGTGGCTAGCTTATATATATATATATATATATATATATATATATTTT  
TTTTTTTTTTTACTTATTTTTTTCTGATATTCTTACACCAGATATGTACGAAAATGATCTGTCCTGTTGGTGTA  
TTAGGAATGTCCATGCAGATACAGTTAAACAACCTGTAATTGACTGTTCTGTAAAGTTATTTTGGGCAAAGTTGCG  
GAGACACATTCCCTCTGTCCACCTAAGAAATCAGAAGACTCTTCTGTTGATTTATGTTTAATCATTTTCAGTAGTTT  
CCCCACAGTGATCATTTCTGCATTTTCTGGCTTTTGTGTTTCTTGGCTGAAAGTGAATGGTGACTGTTAGGAATGT  
CAGGGACTAGTGACCCAGTCCTGTTTCTGTGTTTTAGTTATTAAAAAGAAATCTGTACCCAAAGTG

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**FIGURE 5084A**

AGACCATCCAAGAAGACAGTGCAGCCACCTCCGAGAGCCTGGATGTGATGGCGTCACAGAAGAGACCCCTCCCAGA  
GGCACGGATCCAAGTACCTGGCCACAGCAAGTACCATGGACCATGCCAGGCATGGCTTCCTCCCAAGGCACAGAG  
ACACGGGCATCCTTGACTCCATCGGGCGCTTCTTTGGCGGTGACAGGGGTGCGCCCAAGCGGGGCTCTGGCAAGG  
TGAGCTCTGAGGAGTAGAGGAGTTTTAGTTTTAAATGAAAAAGCAAAGGAGAAATCAGTAGGTGAACCTAGCCAT  
TAGAGGAAGAACTGGCACGTAGCCTCTTGCTGTCTAAGGTCTCGTTCCGTGCTGGAGAATGCATATGAGCCCAAG  
AGTGTGGGCTGAGTGGCTGCTTAGGACGTTTTTCGTTTAACTCACCCCTCTTTTCCTCACAAGGGATGGTGGCC  
GGGGTGTGGCTCAGGAATGTAAGGACATGCTGAATTCTGGATCTCTAAGGGTGCCTGGACATGGGCGTTGCAGAA  
AGAGAGCCACATTCTCAGGGTCTCTGGTGGTGTGTGCTTGCGGACTTGATGACTGATGTTGCCTCTGCAGCCAC  
ACGCTGGGGTTCAACACTGGGTTATGCTCGTTTTTCTCGGAGTCAGTGTGCTAGCTTCATGTTGCTCTGCGAC  
AATCATAGGATTGAGGTGAGGAAGACTTTTGAACAACTCCTCAATTTAAATCCGCCTTGAGCAAACGTTCTCT  
GTGGTCTGAGAAGTGAAGGGGGGAGGGATAAATGAGTGTCTATGAATCAAAGCTTTATTATCTTGTGATTCCAT  
TAATTTGCATACAGAGTCTTAGAAGTTTTCTTTATTCAAAAGCAAATGTGGATAAAAATGTATTACAAAAA  
AACTCTGCTATGGGGTCCAGAGTCTAGGAGTGGTTTTCTGCAGTTGATTGTCAGTGGAGAACCTGTGGCTGCTGGT  
TCATCAAAGCGCTGGTCCCTGAGTGCCATTGAGATTGCAGATGCAGTATTTTACGTGATGTTTAGAGTGTGGT  
GGTTGTGTAATTTTGGAGAGAAAGAAGTTTTTCCAAAAAAGTCCCTAGTTTATTGGGTGTTCTCACACAACCTG  
TAAGATGAAGCTGTTTTTCTGCCTGTGTGCAGGGCTGATTCTGGAATTCCAGAAGGCCTTGTGGGAGCGTAAAAG  
GCTTTTGAATAAAGTGTGGAACAGAGCGCTCATTCTGATAACATGCAATCATAAAAACCATAGGGCAACTTGA  
GTTAAGGAGTTTCTAGAATTTGCTTTAGTCTCCAACGCAATTCTTTATTGATCATGAAATTGTTGAAGAGAAAC  
ACAAATGTCAGTTTTACCTTTCTGTGGGCGTGAAAGCACATCGAAGTTTCAGGCAACTGTTAACATCTCTACCA  
TCTGTCTGAGTTGAGATTTAGGTTGTGACACTTGCCGTGACTTATTTGTAAATGACATTTTGTGTGCTTAGAT  
ACTAATGGAATTCATATTCTGGCTAGTTCTTTTCACTGCAATTTGTAGACATGTTCTTTCTTTGTAGCAGTCTC  
CCTCACCTGAAATGTTGGTGTCTTAACCGATTTCTAATGCTAATTTCAACTGGAAGCACTTTTCAAGCCAGC  
TATCAAACCACACCAGACATGTATGGATTGCGGTTGCCAATAAAGCGTTGCTATTATGTAAGCATCCCTCACGC  
ATACAGCATCACCAGTTTTGAAAGCTTGAACATTTCTGCTTACTTCAAGGTACAGAAAAAATGTACTTAAA  
CTGTGCAGAAAAGATGAAATCACTGGATAATATGATTATAAAATAAGCTTCATGTGAGTGACACTGGTTTTAGT  
TGAATAAATGTTGAAAGCATTGATATCAATGTTGACTTTATCTCAAAACAATATTGACACACATAGATGT  
TTTTCTTCTTTATGGTAAGATTACAGCCTTTATTGTCTTAAATCTCTTATACTCTTCAATATTTCAAAGAAAA  
CATTCTAGTCTCAGAAATAGTCCATCTCTTGCAAAACAGGGCTGGCCAATTATCAAGGACCCATAAAAAATCAA  
ACACTTTCAAAAAATTTAAAAATAAAATAATTTTACATGATTGCTTTAGGAATTTTGAAGTATCCATTCTTTT  
CACTATGGAGTGTGAAATATAGAAGATTTTAAATGAACAGGCTTGCCCTTTGATGCCAAAGGCAAAAAATAATA  
ATAATAACATTTGCACGTGTGATCACAGAGCAGCTGTGAGGCATCCCGGGGGAGCGCACGCAGTGGGGATGTGAT  
TGCTCCACTCAACTATTTTATCACAAAGTGTGTAAACATGGGAGATGAAAGCTTAACCTCTCTACACCCAGCT  
ACAGACCCGCAATGGCCCTAAAAATCTGGGGTATTGATTGGGTGGGCTGCCATGGAGGAATTTTGGTTTTGTTT  
TTATTTTATTTGTTGTTCTGTTTACAAATCAGGAGAGCCCTGTTTTTATATGCTAGGAAGGTCCTTGGGATAG  
GCCGAAGAGGTGTGCAAACGAGCAGTGGAAGGCCCGGGCCCTGTCTCTCAGGACCACGGCGGCCTGCCCCACACA  
CAGTTCTGCTTCTCCCTATCTAGAACGAGGTTTTCTGGCAGATTCTGCCAGACTCTGAGTGGAGCCCCCAT  
GACCTATAAAAGGGGCTGTTTGTCTCTCTCCACCCCTCTGTGCTCTTCTCTCCCTCCCTTGAGGGCACATGGC  
CGCTGGTACCACATGTTGGAGCGGCCGCCCGGAGCCCGGGAATGCCCTAACAAACCCCATGCTTGTGTTGCTGG  
GAGCTGACATTCAAGAAAAGTGCAATTAATAATTCCTTGAGAAGGCATATTCTTTGAGAGCCGTAAATGAAAAGT  
GCATTCACGGAGAACATGCTCCTTTGTTGTGAGAGGAAAGAAAGGACTGTTGTTGCCTTTAAGGAACAGGTTTCC  
CAGTTCCCCGGAATGTCAGGGTCACATGAGGAATGGGTGAGCACTTAGGGCCAAGATTGTCGTGTGCTTGGCCCG  
GCAGCTTCTCTCTAAGTGACCTCTCCAGCATCACTCTGTGCCAGTGCTCATATCTGAGGCCACTTGAGTGTACG  
AGGCAGAGCCTGGAAACATTAGCTTTGGAACCGTTCCCTTCTTTTATGTGGAGGAAGTAAGGTTTACAAGAC  
ACCTAAGCTGGACATGGTGTGTTGCTTGGATAGTTCCCAAAGCAGAAAGCAGCCAGGACATCCAGTACCCC  
ACTTCTCCGTGCCGTGTACTTTTAGGGAGGTTTTCGAAAGCTAGCTTCTTACCGATGATTTTGTCTATTTTCTG  
TTTTATGTGAAAACCTTCATTTATAACCTGCTTCTCTCAGTGTCTTCTATTTCAGCATTGAGTATGACTTCTATG  
CCTCTAATTGCGACTGTATGGAGAAGAAGTGTGTGTCATTGAGTCCGTGGGATATAATCAGTCCGTGAAATTCA  
TCAGAATGTTCTGTTGCCTGATTTTTTTTTTCATTGCATTTTAATTTCAATAAACATATTTAGTTCTACAGTAAC

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**FIGURE 5084B**

CTAATTCCTCATTGTTACCATGAGATCCTAATTCTGTAGCTGTGTTCTGTAAATCCCATGGGGCATGTACCATTG  
GAGACACATGAAGGATACAGTAGACAGCACGGAAGGCAGCAGCAACACACAGGGGTGTCCTCCCTCCCCAGAGCC  
CAGTGTGCACACAGAACC AAAATTCAATCTCATT CATCGTGAGCTTGCATGGTAACTGATCCAGCCACTCAGTACC  
TCCATTGGATAAGAGATTTGGCCACAGATTCTTCTAGAGAAAATCCAAATGTGGAGGGTGCATTTGTTTCTGCAC  
CCAAACAAATACCTTTTGAGATTTCTTATAGGCATTCTCTCGAAGTCTCATTACTCTGATCAGTTATTGATCGG  
AGGCTACCCTGGCTCAGTCACCAGCTGCTCACTGTGTCCTTCTGTGGTCTCAGGAGCTGCAGTTGTTGCTGTTGT  
ATGAATAGACGATAGTTAATTAGACTGGATGTGTCTGTACTGGCAGTGATTTTGCAACTTCCTCTGTATAAGCGA  
TACATTTGTAAATCATGGGAATGTATTTGATGGTAATTGCCTGTGGTGGTTGTATCATGATTTAATTTTATTATG  
AGCTTTTGGCTTTATATATTTTTCTGCCTTTTTATGCATTCATTAAACAGTTTAACAGAC

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**FIGURE 5085**

MGNHAGKRELNAEKASTNSETNRGESEKKRNLGELSRTTSEDNEVFGEADANQNNGTSSQDTAVTDSKRTADPKN  
AWQDAHPADPGSRPHLIRLFSRDAPGEGGQHLQRQAL

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**FIGURE 5086**

CCTGGATGTGATGGCGTCACAGAAGAGACCCTCCCAGAGGCACGGATCCAAGTACCTGGCCACAGCAAGTACCAT  
GGACCATGCCAGGCATGGCTTCCTCCCAAGGCACAGAGACACGGGCATCCTTGACTCCATCGGGCGCTTCTTTGG  
CGGTGACAGGGGTGCGCCCAAGCGGGCTCTGGCAAGGTACCCTGGCTAAAGCCGGGCCGGAGCCCTCTGCCCTC  
TCATGCCCCGACCCAGCCTGGGCTGTGCAACATGTACAAGGACTCACACCACCCGGCAAGAACTGCTCACTACGG  
CTCCCTGCCCCAGAAGTCACACGGCCGGACCCAAGATGAAAACCCCGTAGTCCACTTCTTCAAGAACATTGTGAC  
GCCTCGCACACCACCCCGTCGCGAGGGAAAGGGGGCCGAAGGCCAGAGACCAGGATTTGGCTACGGAGGCAGAGC  
GTCCGACTATAAATCGGCTCACAAGGGATTCAAGGGAGTCGATGCCCAGGGCACGCTTTCCAAAATTTTAAAGCT  
GGGAGGAAGAGATAGTCGCTCTGGATCACCCATGGCTAGACGCTGAAAACCCACCTGGTTCCGGAATCCTGTCCT  
CAGCTTCTTAATATAACTGCCTTAAAACCTTTAATCCCACTTGCCCCTGTTACCTAATTAGAGCAGATGACCCCTC  
CCCTAATGCCTGCGGAGTTGTGCACGTAGTAGGGTCAGGCCACGGCAGCCTACCGGCAATTTCCGGCCAACAGTT  
AAATGAGAACATGAAAACAGAAAACGGTTAAAACCTGTCCCTTCTGTGTGAAGATCACGTTCTTTCCCCGCAAT  
GTGCCCCCAGACGCACGTGGGTCTTCAGGGGGCCAGGTGCACAGACGTCCCTCCACGTTACCCCTCCACCCTTG  
GACTTCTTTTCGCCGTGGCTGCGGCACCCTTGCGCTTTTGCTGGTCACTGCCATGGAGGCACACAGCTGCAGAG  
ACAGAGAGGACGTGGGCGGCAGAGAGGACTGTTGACATCCAAGCTTCCTTTGTTTTTTTTTCTGTCTTCTCTC  
ACCTCCTAAAGTAGACTTCATTTTTCTTAACAGGATTAGACAGTCAAGGAGTGGCTTACTACATGTGGGAGCTTT  
TGGTATGTGACATGCGGGCTGGGCAGCTGTTAGAGTCCAACGTGGGGCAGCACAGAGAGGGGGCCACCTCCCCAG  
GCCGTGGCTGCCCACACACCCCAATTAGCTG

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**FIGURE 5087**

MASQKRPSQRHGSKYLATASTMDHARHGFLPRHRDTGILDSIGRFFGGDRGAPKRGSGKVPWLKPGRSPLPSHAR  
SQPGLCNMYKDSHHPARTAHYGSLPQKSHGRTQDENPVVHFFKNIVTPRTPPPSQKGAEGQRPFGYGGGRASY  
KSAHKGFKGVDAQGTLSKIFKLGGDRDSRSGSPMARR

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**FIGURE 5088**

[illegible]



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**FIGURE 5089A**

CTGGGTTGTGTCGCCGCGGTAGGCGCTGCGCTCTGAGCGCAGCGCAGGCCCCGTACCGACCGCCCCGCCCTC  
TGTCCGCGATGGAGGTGCCGCGCGGGTTCGCGTTCTTCCGAGGGCGCCCCGACGGCGGGCTGTGGCCGAGGTGC  
GCTGCCCGGGGGCCCCGCGCCGCTGCGCCTGCTGGAGTGGAGGGTGGCGGGCGGGCGGGCCGTGCGCATCGGCTCGG  
TGCTGGCCGTGTTTCGAGGCCGCCGCTCCGCGCAGTCTCCGGGGCCTCTCAGTCCCGTGTAGCCTCCGGGGGCT  
GCGTGCGCCCCGCGCGGGCCGGAACGCAGGCTGAGGTTCGGAGCGCGCGGGCGTGGTGCGGGAGCTGTGCGCGCAGC  
CGGGCCAGGTGGTTCGCCCCAGGAGCGGTTCTGGTGAGGTTCGGAAGGATGCAGCCACCCGGTTGTTCATGAAAGGCC  
TGTGTGCTGAATGTGGCCAAGACCTCACCCAGTTGCAGAGTAAGAACGGGAAGCAGCAGGTGCCGCTGTCCACGG  
CGACCGTGTCCATGGTGCACAGCGTGCCGGAGTTGATGGTGAGCTCCGAGCAAGCTGAACAGCTGGGAAGAGAAG  
ACCAGCAGCGACTGCACCGAAACCGGAAGCTGGTGCTCATGGTGGACTTGGACCAGACGTTGATTACACAAACCG  
AGCAGCACTGTACGACAGATGTGAATAAAGGCATCTTTCACTTCCAGCTGGGCCGGGGTGAGCCCATGCTGCACA  
CGCGCCTGCGTCCACACTGCAAGGACTTCTGGAGAAGATCGCCAAGCTGTACGAGCTGCACGTCTTACCTTCG  
GCAGCCGGCTGTACGCACACACCATCGCAGGCTTTTTAGACCCCCGAGAAGAAGCTTTTTTCTACCGAATATTAT  
CAAGGGATGAATGTATTGACCCATTTTTCTAAAACGGGAAACCTTAGAAATCTCTTTCTTGTGGAGACTCAATGG  
TTTGCATTATTGATGATCGAGAAGATGTCTGGAAGTTTGCCCCCAATCTGATAACTGTGAAGAAATATGTATACT  
TCCAGGGCACGGGTGATATGAATGCGCCCCCTGGGTCCCGAGAATCTCAGACGAGAAAGAAAGTAAATCATTTCTC  
GAGGCACTGAGGTCTCAGAGCCATCTCCGCCCGTGAGAGACCCTGAGGGGGTAACGCAGGCCCCCTGGAGTGGAGC  
CCAGCAATGGCCTGGAGAAGCCTGCACGGGAGCTGAACGGCAGCGAGGCCGCCACCCCGCGGGACTCACCCCGCC  
CCGGGAAGCCAGACGAGAGGGACATCTGGCCCCCTGCCAGGCCCCCCACCAGCAGCCAAGAGCTGGCAGGCGCTC  
CTGAGCCCCAGGGATCTGTGCGCAGGGTGGCGCGGGTGGCACCGGGACAGCGGCCTGCCAGGGTGCCACGGGCA  
CTGACCTGGACTTTGACTTATCCAGCGACAGCGAGAGCAGTGTAGTCCGAGGGCACGAAGTCTCTCTCTCCG  
CCTCTGATGGCGAAAGCGAGGGGAAAAGAGGCCGGCAGAAGCCGAAGGCTGCCCCAGAGGGAGCCGGGGCGCTGG  
CACAGGGCAGTTCCCTGGAGCCGGGGCGGCCTGCAGCACCAGTCTCCCCGGAGAGGCCGAGCCTGGCGCGCATG  
CCCCGGACAAGGAGCCTGAGCTGGGTGGGCAGGAGGAGGGCGAGCGGGATGGCCTCTGCGGCCTGGGCAACGGCT  
GTGCCGACAGGAAGGAGGCGGAGACCGAGTCACAGAACAGCGAGCTGTGCGGGGTCACTGCGGGTGAGTCCCTGG  
ACCAGAGCATGGAGGAGGAGGAGGAGGACACGGATGAGGATGACCACCTCATCTACCTGGAGGAGATCCTGG  
TCCGTGTACACACTGACTACTATGCCAAGTATGACCGCTACCTCAACAAGGAGATCGAGGAGGCGCCGGACATCC  
GCAAGATCGTGCCGGAGCTCAAGAGCAAGGTGCTGGCAGACGTGGCCATAATTTTCAGTGGGCTACACCCGACAA  
ACTTCCCGATAGAGAAGACGCGGGAGCATTACCACGCCACGGCGCTGGGAGCGAAGATCCTCACTCGGCTGGTGC  
TGAGCCCCGACGCCCTGCAGGGCCACGCACCTGATCGCCGCGGAGCTGGCACAGAGAAGGTGCTGCAGGCAC  
AGGAGTGCAGACACCTGCACGTGGTCAACCCTGACTGGCTGTGGAGCTGCCTGGAGCGCTGGGACAAGGTGGAGG  
AGCAGCTCTTCCCGCTCAGGGACGATCACACCAAGGCACAGAGGGAGAACAGCCCTGCGGCCTTTCCCGACCGGG  
AGGGTGTGCCCCCACCGCCTTGTTCCACCCGATGCCGGTTCTTCCCAAGGCCAGCCTGGCCCCGAGGTTCCGA  
TCTACGACTCCAACACGGGGAAGCTCATCAGGACGGGCGCCCCGGGGCCCCCAGCACCCCTCCAGCTCCCTACCCA  
TCCGCCAGGAGCCCTCTTCTTTCAGAGCGGTTCCGCCACCCAGCCGAGATGTTTGGTGAAGAGCTGCCTGACG  
CTCAGGACGGAGAGCAGCCTGGCCCTTCTAGAAGAAAGCGACAGCCAGTATGTCTGAGACAATGCCGCTGTACA  
CTCTTTGTAAGGAGGATTTAGAGAGTATGGACAAAGAGGTGGACGACATCCTTGGAGAAGGCAGCGACGACAGCG  
ACAGCGAGAAGAGGAGGCCTGAGGAGCAGGAGGAGGAGCCCCAGCCCCGGAAGCCAGGGACCCGAGGGAGCGGA  
CGCTCGGGGCACCTGCGTCCAGCGAGAGGAGCGCGGCAGGGGGCCGGGGGGCCAGAGGGCCACAAGAGGAAGCTGA  
ATGAAGAGGACGCCGCCAGCGAGTCCAGCAGGGAGTCCAGCAACGAGGATGAGGGCAGCAGCTCCGAGGCCGACG  
AGATGGCCAAGGCGCTGGAGGCGGAGCTCAACGACCTCATGTGAGCGCGGGCAGCGGGCAGGGACTGAAGCCTGA  
CCGACCTCCAGCAGCACTCGGACGTCCCCGGACCAGCCCTCAGTCTCGGTCCACGCTGCTTTCTTCCCAAAGGAC  
ATGTATATTTGCAGAGCTCCACATACAGAAACACATTATTTTGCAAGAAATAGGTGTTTTTAAGAAGTTTTACTAC  
AGGAATGTCTACTTTTGTAAAGTGACAGGTGTTAAAGGCCAGGTGTGCTGTGCCAAAGAGCTCAGCAGAGGCTCA  
CGTGGCCCAGGCTGGTTCGCCCCGCTGTCTCGGTAAGGGGCGGGTGGTGTGTTTTCCCTTGTGTACCAGAGCAC  
ATTCTTAGGGGACGGCTTTGGGGGTCCCACGAGACATGGACTAGGAGTTTAAGCAGGACAGTGTGCGTGCACGA  
GCTCCGAGCCCAGCACAGACATGCCTGGAACCCCCGCGCCTGCTGCTCCCTCCTAGGGAACCCATTTCCGGGGA  
ACGCCGTGACTGTGCGGCAGCCTGGAGCTTCTGACGCTCCTACGCAGGGTCCACGCCACGTGGCCTGGGCTGC  
CATCTGCCGTCTCTCCACTGGCATCTGGCAAGGGGGCGTTGCTTTTCTGGGCGGCCTTTTATGTCTTGGAGA

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**FIGURE 5089B**

CACCTGATGTAAAGTTTCTGTAAATCTATTTTCATATCTGACCCACCAAACAGATTTCCTTTAATAAAAAATCCTT  
TTTGTAAGTTC

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**FIGURE 5090A**

CACCCCTCCATCACCCAGCCTGAAACTCTACCCATTGAACACGAGCTGCCCAACTCCGCCTTGCTTCCCCATTCTG  
CTGGCGACCACTGCTTCTGTCTCTGTGAATTTTGACTATTCTAGGCACTTCACAAAAGTGGACTCATACGATATC  
TGAGTTTTGGCTCTGGCTTCTCTATTGAATTCCTAAAGGGGGGTGGGAACTAAGCAGATCACAAGGGAGCTGCC  
CACAGAGGTAAAGACAAGGTCAGGTAGGCTGAGAGACGCAGGAAAGCGGGTCAAGGCGTAGGGCTGGAGGGCAGG  
GGCGGGCCCTGGGCGTGGGCTGGGGGTCTGCCCCGGGGCGCACCCGGGCGAGGGCTGCCCGGAGGAGCCGAGG  
TTGGCGGACAGCTTGGCCCTGAGCTTGAGGGGAAGGCAGCGATGGGACAAAGGACGGAGGTCTAGGAAGAGGGTC  
TGCAGAGCAGAAAGCACGGGTAGGGGCGGCCTGACGCTCGGAAGACAACGCATGGGAGCCGTGTGCACGTCGGGA  
GCTCGGAGTGAGCGTGAGTTCCGTGCCAGGCCCGCGACTCGGCCCGACAGGACAGCGCTCCGGGTGACGGGGT  
CCTGGAGCCGCGCTCGGGGAGGGCGCAGCGGAGGGCGAGCGGCGGCGTTAGGACCCGAGGCGCGGGCGGACTGG  
GGGCGGCGGGGCTAGGACCCAGCGGCTCCGGCAGAGCGGAAGCGGCGGGGAGCTTCCGGGAGGGCGGCTCGCA  
GGCACCATGACTCCTGTGAGGATGCAGCACTCCCTGGCAGGTGAGACCTATGCCGTGCCCTTCATCCAGCCAGAC  
CTGCGGCGAGAGGAGGCCGTCCAGCAGATGGCGGATGCCCTGCAGTACCTGCAGAAGGTCTCTGGAGACATCTTC  
AGCAGGTGGGTGCTGCCACTCACCCACCTGATGAGAGGGCCATCCCTGTCTGGGCAATCCAGCAACACACC  
CTCTGGGAGCAGCCCCCTTGGGGAATCCCGTCTGGGGAACCCATCTGGCTTCCCTGTGTGGAGGGGCTGAAG  
TGAGAGCCCCAACTTGGAAGCTTTTACTCCTGGGAGTCCAAGAGCTCACTCCCTTCCACCCCACTTAGCCTCCTGG  
TTTCTGTGGTGGCTCTGCTCTCAAACTCATGCTTTTCTCCATTGGAGGGCCTATTCCTTCACGTTTTCTTG  
CAGCCAACAAATATTTACCCAGCAGTGCTCGTGTGAAGGCAGTGTGGGAATCTCTATATATCCAGCCACGGATA  
AGGCAACATACCTCTCCAÇCTGGAGCGCACATTCTGGCAGGAGAGAAAGACCTAAATTAAGCAATAGATGATTAGT  
TCTTCAATAACAGTTGTGACAAGGTCTATTGATAATATTTTGTAACTACTAATATTCATATAAACCGTGCACAAC  
CATTGATTTGAGTGCATTAACCTCACACTTCATGAGCAGGCACTGCCGTCACTCATTTATAGATGAGGAACTG  
AGGCACAGAAGGGCTGAGAGACCTGGCCTAGTGACAGAGCCAGGATTCAAAGCCATAGATCATGGCCCCGGGTTA  
TGTAGGTTATTACTGCATCTGTTTCAGGGGAGATGGGGTACTGTGAGGCTCGTCATGGGAAGCCTGGCTTGGTCTC  
AGGTGAGGGAAGGCAGACGTGAGGAAATGACATTTATGGTAAAGTCTGAGGGTTGAGTGGGTAGGTTGGGAAGAA  
CATTCCAGAAAGAAGCACATGAACTACAGCCTGGAGGTGGAGGACCTAAAAGGAAGCCAGCATGGCTGGAGCACG  
GAGTGGCCATTGAGGGAGGCGAGCTGGAGGGCTGCAGCTTCTTGTATTGGCAGTGCTGACCTCGCACAGTCTTG  
GGCTCCAGTGACTTCACTCAGTGTTTTATCTAACATGAGTGAGTGAATGGTGTGTTGCTCTTTTTTGGTAAAGGTC  
CCAGGGGTTGTGCGGTACACAGGTCTGTCTTTGGCCATAAGCAAACCTGAAATGAGGCTTGGTCTCCTTCCCAGG  
ATCCACACCATGCTCAGATGGTAGACCCAGTGGGAAGTATGTGACTGCCTGACTCAGGTGCCTCTCGTGGTC  
CAAGCCATCCCTGCCCTGTCCCTTCCCTGGTTGTGCGCAGACCTGGAGCCCTGCTCCTTCACTTTGCAGCCTCC  
TCTTCTGTACCAACTGGGAACCCACCTTCTCTGAAAGTCTCCCCACTGACTCACCGGCTTGCCCCGAGTTT  
GTCAAGAATGTCCAGTAACAGGGGACACACAGTGAAGTGACTGAGGGGTTACCTTGGAGTTGATGCCTTGGCT  
CAGATCCAGCTCCCTGTTTTCTTCTCTGTAACTTGGGCAACCCAAACCCCTCTAAGCCTCGGTGTTCTCATT  
GTGAAGTTGTGGTAATAATGGTAGCTTCTGGTAGAATTATTTTAAATATTAATAATCAAAACATGCAAAGGA  
ATGGAACAGTGCCTGGCACTTAGGAAGCCTTCAGGAAATGCTATCTCTTCCCTGTTGATAATCTTGACCCGTACA  
CTGCCCTTTGGTTGCCATTCTATAAACCTGCCACCAATAGTAACAAAGTGCTGGATGCACCTTTTGTGCTTATCTTT  
GTGCTAAATGTGCCCCGAGGGACACCTAGGGAAGAGGATGCAGGTCTTTAAGAGCCATCAGCTCCAGATTATGGCC  
ACCCCATGTCCAGCACTTAGAATGGAGGCCAAAACCATTCCTCGGAAATTGTGTTTTCTTGCCAAGATGGGGAC  
TGGTGGTTGCCCTTCTCTGAGGGCAGCGCTGGATTTTTGGCGTCTTTCTTTTCTGTCTGCTGGTACTTGGCACCT  
TGTAGACAGTTGCATGTCCCTGCCAGGGATGGGATGAGGAGAGGGCAGGAAGGCATTTCTGGGTAGTGGAGT  
GCTGCGTTTATTGAGTGTGGGTTCTCCAAGCTGCTGGCACAGCGCAGGGAGGGCCAGATGCCTCTCAGGAGCCTT  
GGGCTGAGTCTGGCTCCCTCACTCCTGGGTTCAGGTCACTGCATCTGTCTCTCCACCATGTGCTCCACCTCG  
TGCTGGACCTTAAGAGATACCAATTATGTGGCTGCCACTGTGTCTTAGAGGCTGGAATGGGAACACATAGGGCGA  
GATTGATTGTTAATTGCTAGCATGAACCGGTGGGCTTCTCAGGGTCTAGAGTGGAGAGAAATCGGTAAGAATTG  
GTGGCACGCCTGTGAGAACTCCCCAGACCAAGCTAAGCAAAAATTAACCAATCAGTAGAGCAGCCTTCGGAGTAA  
GGGCTAAAATGATGTCTCAGGGCCTGGTTTTGCTTTCTTCCATGTGAGTTTGCTTTTGGGTCTGGCTGCAT  
TCCAGACAGGCCATGCTCTCGTGGTAGCAAGGTGACATGACACAGGGTCAGGTCCAGCAGGAAAGAATGCTGTC  
CTGTGTCCCCACTTCCCTCCAGAAGCCACACTCACTCATCCACCTGGCTTGGTCTCATGTCTATCCAGAATCC  
ATTAATGGGGCCAGGGGACTATGACACACCACTTGGCTTAGACTGAGGAGCTCTGTGGGCGAGCCCCACCTGAAGC

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**FIGURE 5090B**

TCTGGGACTAAGCCTGCGAGAGAGATGGATTCCCCAAGGGAAATGGGGCCATTGCTTGAGTAAAAAGGAAATAGT  
TGCTGAAGAGGAAAACACGTGCTTACTCCACATAGGGCAGACTCCTGGAAGAGGGGGGCAGGGTAGGGAGGTGG  
ATATGCAGGTTGCCCTGGCAGGGTCTGGAAATGGGGGCTGCAGGCCTTGAGGGAGGCCTCAGTGTGGCTTGGAAC  
GTGGTGTATGGTGGTCTGCCGCGAAGGCCGGCCTGCACAGGGGTGGGAGGGGGGTGCTTCTGCATGGGAAGCACA  
GACAGCGCTGCCTCTCCCTTGCACTCAGCTCTCGGGGCATGAGAGGCTAACTTCCGTGAGCCTGTGGGCCAGGC  
CTCTTTGAATGGGGCTGAGGGAGCTTTGCCCTGGTTCCCTTTGTGTCCCCACGGTGCCACGGGAGGCTCCCTGGCA  
GGGTGTGGGGCAGGGCAGTGAGTGAAGAGTTGGGATGAGTGAGTTAGGGCCCACGGATTACTCAAGACAGGACTT  
CAAGTTGATTTCAGGCGTGTAGGGAGCTGTGATTGGATTTTGTAGCAGGGCAGGGATGGGACAGAAGAGTTTGGGG  
AAGGTTCCCTCAGGCATCCGTACAGAAAGGGACAAGAAGGGAGAGAGAGTGGATGCCAGGGACACCCAGAAGCTGT  
TATTGTAGTCAGGATACGACAGGGGTGAGGCTACAGACAGGGGACTTGCAAGCAGGGAGGGCAGGGTGAGACATT  
CAGAGGAAACGACGACAGGAAATGGTGACAGATAGGGAACGAGGATGAAGGGAAGGGAGAGCCAGTGACGACTGG  
CAGTGGAGTGGGGAGCACCGCCACCTCTCCTCCTCCACTTGCCCCCTCCTGTGGCACTGGACAAGCTAGTGGGCTT  
TTCGTTGTCCATGGGCTTTTTTCGGTGGGGATGTGACCAGCTTTGAACCCGTCCCCTTAAACATGCTCCTCCTGCA  
CGGAAGAGACAGGGGCAGGGGAGAGACTCTCTCCCCACCACCCGGCTCAGGCCCCAGCACAGCCCGGCCTCTGGC  
CTCACTGGCGTCTGTGCCCAGTGACGCAGGCAGGTGAGCTCCTGGCAAATTAGCATTGCAGGCTGTGCTCTCTCC  
TCCTGCTCTGCTGCAGCTGGGAGTGTGCAGAGACTGGAGGGGATGACAGTCACCTCTGTTTTCTGTGGTGGCTC  
TGTTTTCTGTGGTGTGATGCACCTCTGTTTTCTGTGGTGGCTCCAAGAGAGTGCACGGTCCCTGCTGATTGAA  
AGAAGGATGAAGGGCAGAAGAGGGGCGGGGAGCTGTGTGCCCTAAGATCTCATTGCCTTTTTATGCCGATTAACA  
TGCTTTTAGCCCCCTACTGAGCTTATAGTTAACAGAAGTTTCCAGGTCTTTCTTCACCTGAACTGTGTCTAAAGCA  
AGTTCCCTCCACCTTCTGTATTTATACGCTTGATTTTTAAACCTAAATGTTGGGCTTCACATTTGTTTCCTTGTA  
AATTTTCATCTTGGTGATTGCAGTCTACCTCTGGCC

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**FIGURE 5091**

MRGPSLSWAIPATHPLGAAPLGNP GPGEPIWLPCVGGAEVRAQLGSFYSWESKSSLPSTPLSLIVSCGGSALTTH  
AFPPIGGPIPSRFPAANKYLPSSARVQGSVGISIYPATDKATYLTWSAHSGRRERPK

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**FIGURE 5092**

AGATGATGATTATTCCCCACCTTCTAAGAGACAAAGACCAACGAGCCGCCACAGCCACCAGTCCCAGAACCCGCC  
AATGCTGGGGAACGGAAAAATGAGGGAGTTCAACTCTGGCCCTCACAATCCAGTGGAGGAGACGCAACTCATCTGC  
CTCTGTCCCTCTGGGACGCTCGTGCCAGGTGCATCTGTGGACAGGGGCCATGCTCCTGGGCTTCCAAAGTTGG  
AGAAAGCTGCCAGGCTCAGGTCTGAAGGCCAGAATTCTACAGTAAGTCCTACTGAGTCAAGGTGGGAGCAGGGTC  
GGTAGCTTCCGAGGCTCTGCGGGAGAATCTGTTTCCTGGCCGTAGAGGTGGCCTGCACTCCTCAGCCTGTGCTGC  
CCGTCTCGAATGACTGGAGTTTCTGCTTCTGTCACTACACCTCCCACCCTCTCCATCACCTGCTCTGCTCTTAC  
AAGGATCCGAAGAAATGGAATCATCGTATCGCTGATCTACGTAAACAACTGAAGAATTGTCTGAAAGAAAATAT  
GACATGAACCTTATGAATTCAATAGGTGAAGATTTACAACCTTGATAAATCAACTTTGTCAGCTCGAGCTGTAAAAG  
CCAAAGGTCCGGTGATGATCCCATACCCTTTTTTCCAGTCTCATGTTGAAGATTTTTATGTAGAAGGCCTTCCCA  
AAGGAATTTTTTTTTTTTTTTTTTTTTTGGAGATGGAGTTTTCACTCTTATCGCCAGGCTGGGGTGCAATGGCAC  
AACCTTGCTGGTCACTGCAACCTCTGCCTCCTGGGTTCAAGAAATTCTCCTGCCCTAGCCTCCCAAGTCACTGGG  
ATTACAGGTGCCACACCACACCAGGCTAATTTTTGTATTTTTAGTGGAGATGCGGTTTACCATGTTGGCCGG  
GCCAGTCTCGAACTCCTGACGTCAAGTGATCTTCCCGCCTCGACTCCTGATATCAAGTGATCTTCCCGCCTCGGC  
CTCCCAGAGTGCTGAGATTACAGACGTGAACCCATGCCTGGCCAGGAATTTTGTTTTTTAGGAAGGCTTTCTACT  
AATGGAATTCCTGGCCTTGAGAGGATGTTACTTTAGAAGGAAAGGATTTTTTGTATTAAAGCTGGACCTACC  
ATGAAAGACTTCTGAATCCAGGAAGAGAACTGACTGGGCAACATGTTATTCAGAAACAGGACCTTGCCCTGTCA  
CTCAGGATGGAGTTCAGTGGTCTATCATGGCTCATTATAGCCTCAAACCTCCAGGCTCAAGCAATCCTACCATG  
TCAGCCTTCCCAGTAGCTGGAACCTACAGATACCGGGTCTCACACTGTCAACCAGGCTGGAGTACAGTGGCACAAAC  
CTCTGCTCACTGCAGCCTCCACCTGCCAGGCTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGTGATTT  
CCAGGAAGTGCGCTCACAATGACTCAAGCTGCCACATACTGTTGATTGTGAAATGCCAGTTGAAGCATATGTCCT  
GCAAGCTTAGGGGTGCTACAAGTTGACCACTGCAGCAGTAAAGATGACTCTGAAGAACGGCGTGGGATGGTTCTT  
TTCAAATGCACTTGAGCAGCGGTCTCCAACCACAGGGCCACAGAGCTGGAGCTGGATCTACCATGAAAGACTTGT  
GAATCCAGGAAGAGAGACTGACTGGGCAACATGTTATTCAGAATCTCCCTGTGCCATCCAGGCTGGAGTGCAGTG  
ATGTGATCATAGCTCACTATAGCTTTGGCCTTCTGAGATCAAGCAATCCTCCCATCTCAACCTCCCAAGTAGCTA  
GGACTACACACGCATGCCACCCATGCCAGATCATTTTTGTAGAGTCAGAGTTTACCCTGGTGGCCAGGTTGGC  
CATGTTGGCCAGATGGGGTCTTCTTTTGTGGCCAGGCTGGCCACAAATTCCTGGGCTCAAGTGATCTTCCACC  
TCGTCTTGTAGAGATGAGATTTAGTTATGTCGTCCAGGCTGATCTCAAACCTCCTGGGCTAAATCGATTGTCTCA  
CCTCAGCCTCTCAAGTATGTTATGAAGTTATATGTTAGGAAGGGTCCCAGGAGGTAAACCCACACAGATGGGAT  
TTGGGCATAGGTTTGGTTTCCCAGGGGGCAGTGCTGAGCTCTTTGCCAGTGGGAAATGGGATGCTGGTGATTTCC  
AGTAGGTGACCTCACAGTCAAGCTACCACTTACTGTTGATTGTGACGAAATGCCAGCTGAGGCACATGCCT  
TGGGAGCTAAGTGGTTGCTGCCCTTGACCACTGTGAAGACTGGTGTGGGAAGGGTCGTTTTGGATGCACCTGAGC  
AGGGGTCCCCAACCCCTGAGCCATGGAGCCGCAAGGAGCCACACAGCAGGAGGTGGGAACATCCAGTTGCAGGAA  
AACAAGCTTAACACGCCCACTGATTCTACATTATGCTCCTACCTCCCGGCAGCCTCTCCAGGCCCAGAATTTCT  
CCAGTCAGCCTCTACAGACCAAGCTCATGACTCACAATGGCCTATTTAGGCCATACCCTACGTACGGCAGCCT  
CCGCAGATGAGGCTACTGCCTCACAACAGCCTCCACAGGCACAGCTCCATCGTTACAATGGCCTCTTTAGACCCA  
GCTCCTGCCTCCAGCCTTCTCTCCAGGCCCTGAACTTTCTCAAGTC

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**FIGURE 5093**

GCGACGGGACGCGCTGGGACCGGCGTCGGGGGTCGCGGGGACCATGAGCGGAGGTGGGTCTTCGTGCTGCTCGA  
CGTGCTGTGCTTACTGGTCGCCTCCCTGCCCTTCGCTATCCTGACGCTGGTGAACGCCCCGTACAAGCGAGGATT  
TACTGCGGGGATGACTCCATCCGGTACCCCTACCGTCCAGATACCATCACCCACGGGCTCATGGCTGGGGTCAC  
CATCACGGCCACCGTCATCCTTGCTCTCGGCCGGGGAAGCCTACCTGGTGTACACAGACCGGCTCTATTCTCGCTC  
GGACTTCAACAACACTACGTGGCTGCTGTATACAAGGTGCTGGGGACCTTCCTGTTTGGGGCTGCCGTGAGCCAGTC  
TCTGACAGACCTGGCCAAGTACATGATTGGGCGTCTGAGGCCCAACTTCCTAGCCGTCTGCGACCCCGACTGGAG  
CCGGGTCAACTGCTCGGTCTATGTGCAGCTGGAGAAGGTGTGCAGGGGAAACCTGCTGATGTCACCGAGGCCAG  
GTTGTCTTTTCTACTCGGGACACTCTTCCTTTGGGATGTACTGCATGGTGTTCCTGGCGCTGTATGTGCAGGCACG  
ACTCTGTTGGAAGTGGGCACGGCTGCTGCGACCCACAGTCCAGTTCTTCCTGGTGGCCTTTGCCCTCTACGTGGG  
CTACCCCGCGTGTCTGATTACAAACACCACTGGAGCGATGTCTTGTGGCCTCCTGCAGGGGGCACTGGTGGC  
TGCCCTCACTGTCTGCTACATCTCAGACTTCTTCAAAGCCCGACCCCAACAGCACTGTCTGAAGGAGGAGGAGCT  
GGAACGGAAGCCCAGCCTGTCACTGACGTTGACCCTGGGCGAGGCTGACCACAACCACTATGGATACCCGCACTC  
CTCCTCCTGAGGCCGGACCCCGCCAGGCAGGGAGCTGCTGTGAGTCCAGCTGATGCCACCCAGGTGGTCCCTC  
CAGCCTGGTTAGGCACTGAGGGTTCTGGACGGGCTCCAGGAACCCTGGGCTGATGGGAGCAGTGAGCGGTTCCGC  
TGCCCCCTGCCCTGCACTGGACCAGGAGTCTGGAGATGCCTGGGTAGCCCTCAGCATTGAGGGGGAACCTGTTT  
CCGTGGTCCCCAAATATCCCCTTCTTTTTATGGGGTTAAGGAAGGGACCGAGAGATCAGATAGTTGCTGTTTTG  
TAAATGTAATGTATATGTGGTTTTTAGTAAAATAGGGCACCTGTTTCACAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5094**

MQRRWVFVLLDVLCLLVASLPFAILTLVNAPYKRGFYCGDDSI RYPYREDTI THGLMAGVTITATVILVSAGEAY  
LVYTDRLYSRSDFN NYVAAVYKVLGTFLFGAAVSQSLTDLAKYMIGRLRPNFLAVCDPDWSRVNCSVYVQLEKVC  
RGNPADVTEARLSFYSGHSSFGMYCMVFLALYVQARLCWKWARLLRPTVQFFLVAFALYVG YTRVSDYKHHWSDV  
LVGLLQGALVAALTVCYISDFFKARPPQHCLKEEELERKPSLSLTTLTGEADHNHYGYPHSSS



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**FIGURE 5095**

GCCGCGGGCGGGCGGGCAGCGGTTGGAGGTTGTAGGACCGGCGAGGAATAGGAATCATGCGGGCTGCGCTGTTT  
GTGCTGCTGGGATTTCGCGCTGCTGGGCACCCACGGAGCCTCCGGGGCTGCCGGCACAGTCTTCACTACCGTAGAA  
GACCTTGGCTCCAAGATACTCCTCACCTGCTCCTTGAATGACAGCGCCACAGAGGTCACAGGGCACCGCTGGCTG  
AAGGGGGGCGTGTTGCTGAAGGAGGACGCGCTGCCCGGCCAGAAAACGGAGTTCAAGGTGGACTCCGACGACCAG  
TGGGGAGAGTACTCCTGCGTCTTCTCCCGAGCCCATGGGCACGGCCAACATCCAGTCCACGGGCCTCCAGAG  
GTGAAGGCTGTGAAGTCGTCAGAACACATCAACGAGGGGGAGACGGCCATGCTGGTCTGCAAGTCAGAGTCCGTG  
CCACCTGTCACTGACTGGGCCTGGTACAAGATCACTGACTCTGAGGACAAGGCCCTCATGAACGGCTCCGAGAGC  
AGGTTCTTCGTGAGTTCTTCGCGAGGGCCGGTCAGAGCTACACATTGAGAACCTGAACATGGAGGCCGACCCCGGC  
CAGTACCGGTGCAACGGCACCAGCTCCAAGGGCTCCGACCAGGCCATCATCACGCTCCGCGTGCAGCCACCTG  
GCCGCCCTCTGGCCCTTCTGGGCATCGTGGCTGAGGTGCTGGTGTGCTGGTCAACATCATCTTCATCTACGAGAAG  
CGCCGGAAGCCCGAGGACGTCCTGGATGATGACGACGCCGGCTCTGCACCCCTGAAGAGCAGCGGGCAGCACCAG  
AATGACAAAAGGCAAGAACGTCCGCCAGAGGAACCTCTTCTGAGGCAGGTGGCCCGAGGACGCTCCCTGCTCCACG  
TCTGCGCCGCCCGCGGAGTCCACTCCAGTGCTTGCAAGATTCCAAGTTCTCACCTCTTAAAGAAAACCCACCC  
GTAGATTCCCATCATACACTTCCTTCTTTTTTAAAAAGTTGGGTTTTCTCCATTCAAGGATTCTGTTCTTAGGT  
TTTTTCTCTTCTGAAGTGTTTCACGAGAGCCCGGAGCTGCTGCCCTGCGGCCCGTCTGTGGCTTTCAGCCTCT  
GGTCTGAGTCATGGCCGGGTGGGCGGCACAGCCTTCTCCACTGGCCGGAGTCAGTGCCAGGTCCTTGCCCTTTG  
TGGAAGTCACAGGTCACACGAGGGGCCCCGTGTCTGCTGTCTGAAGCCAATGCTGTCTGGTTGCGCCATTTT  
TGTGCTTTTATGTTTAAATTTTATGAGGGCCACGGGTCTGTGTTTCGACTCAGCCTCAGGGACGACTCTGACCTCTT  
GGCCACAGAGGACTCACTTGCCACACCGAGGGCGACCCCGTACAGCCTCAAGTCACTCCCAAGCCCCCTCCTT  
GTCTGTGCATCCGGGGGCGAGCTCTGGAGGGGGTTTGCTGGGGAACCTGGCGCCATCGCCGGGACTCCAGAACCGCA  
GAAGCCTCCCCAGCTCACCCCTGGAGGACGGCCGGCTCTCTATAGCACCAGGGGCTCACGTGGGAACCCCCCTCCC  
ACCCACCGCCACAATAAAGATCGCCCCCACCTCCACCCTC

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**FIGURE 5096**

MAAALFVLLGFALLGTHGASGAAGTVFTTVEDLGSKILLTCSLNDSEVTGHRWLKGGVVLKEDALPGQKTEFK  
VDSDDQWGEYSCVFLPEPMGTANIQLHGPPRVKAVKSSEHINEGETAMLVCKSESVPPVTDWAWYKITDSEDKAL  
MNGSESRRFFVSSSQGRSELHIENLNMEADPGQYRCNGTSSKGSQAIITLRVRSHLAALWPFLGIVAEVLVLVTI  
IFIYEKRRKPEDVLDDDDAGSAPLKSSGQHQNKGKNVRQRNSS

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**FIGURE 5097**

CGGGCGGCGGCGGCAGCGGTTGGAGGTTGTAGGACCGGCGAGGAATAGGAATCATGGCGGCTGCGCTGTTTCGTGC  
TGCTGGGATTTCGCGCTGCTGGGCACCCACGGAGCCTCCGGGGCTGCCGGCACAGTCTTCACTACCGTAGAAGACC  
TTGGCTCCAAGATACTCCTCACCTGCTCCTTGAATGACAGCGCCACAGAGGTCACAGGGCACCGCTGGCTGAAGG  
GGGGCGTGGTGTGAAGGAGGACGCGCTGCCCCGCCAGAAAACGGAGTTCAAGGTGGACTCCGACGACCAGTGGG  
GAGAGTACTCCTGCGTCTTCTCCCCGAGCCCATGGGCACGGCCAACATCCAGCTCCACGGGCCTCCCAGAGTGA  
AGGCTGTGAAGTCGTCAGAACACATCAACGAGGGGGAGACGGCCATGCTGGTCTGCAAGTCAGAGTCCGTGCCAC  
CTGTCACTGACTGGGCCTGGTACAAGATCACTGACTCTGAGGACAAGGCCCTCATGAACGGCTCCGAGAGCAGGT  
TCTTCGTGAGTTCTTCGCAGGGCCGGTCAGAGCTACACATTGAGAACCCTGAACATGGAGGGCCGACCCCGGCCAGT  
ACCGGTGCAACGGCACCCAGCTCCAAGGGCTCCGACCAGGCCATCATCACGCTCCGCGTGCAGCCACCTGGCCG  
CCCTCTGGCCCTTCTTGGGCATCGTGGCTGAGGTGCTGGTGTCTGGTCACCATCATCTTCATCTACGAGAAGCGCC  
GGAAGCCCGAGGACGTCTGGATGATGACGACGCCGGCTCTGCACCCCTGAAGAGCAGCGGGCAGCACCAGAATG  
ACAAAGGCAAGAACGTCCGCCAGAGGAACCTCTTCTGAGGTGGCCCCGAGGACGCTCCCTGCTCCACGTCTGCGCC  
GCCGCCGGAGTCCACTCCAGTGCTTGCAAGATTCCAAGTTCTCACCTCTTAAAGAAAACCCACCCCGTAGATTCT  
CCATCATACACTTCCTTCTTTTTTAAAAAAGTTGGGTTTTCTCCATTTCAGGATTCTGTTCTTAGGTTTTTTTCC  
TTCTGAAGTGTTTCACGAGAGCCCGGGAGCTGCTGCCCTGCGGCCCCGTCTGTGGCTTTTCAACCTCTGGGTCTGA  
GTCATGGCCGGGTGGGCGGCACAGCCTTCTCCACTGGCCGGAGTCAGTGCCAGGTCCTTGCCCTTTGTGGAAAGT  
CACAGGTCACACGAGGGGCCCCGTGCTCCTGCTGTCTGAAGCCAATGCTGTCTGGTTGCGCCATTTTTGTGCTTT  
TATGTTTAATTTTATGAGGGCCACGGGTCTGTGTTGACTCAGCCTCAGGGACGACTCTGACCTCTTGGCCACAG  
AGGACTCACTTGCCACACCGAGGGCGACCCCGTCACAGCCTCAAGTCACTCCCAAGCCCCCTCCTTGTCTGTGC  
ATCCGGGGGCAGCTCTGGAGGGGGTTTGTGGGAACTGGCGCCATCGCCGGGACTCCAGAACCGCAGAAGCCTC  
CCCAGCTCACCCCTGGAGGACGGCCGGCTCTCTATAGCACCAGGGCTCACGTGGGAACCCCCCTCCCACCCACCG  
CCACAATAAAGATCGCCCCCACCTCCACCCTC

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**FIGURE 5098**

GGCACGAGGATACCTCCTCATCAACTCTGACATAGTGTGCGAACAGGACATCTACGAGTGGACTAAGATCAATGG  
CCGGCGGCGGGTGCCGCGCGGGGGCGGGCGGGCGGAGTAGGTGGCGGCGGCC**ATG**GCCGAGGCGTCGCCGCAT  
CCCGGACGGTACTTCTGCCACTGCTGCTCCGTGGAGATCGTCCCGCGCCTGCCGGATTATATCTGTCCAAGATGC  
GAGTCTGGTTTTATCGAGGAGCTTCCGGAAGAGACCAGGAGCACAGAAAATGGTTCTGCCCCCTCCACAGCTCCC  
ACAGACCAGAGCCGGCCACCGCTGGAGCACGTGGACCAGCACCTGTTACGCTGCCGAGGGCTACGGACAGTTT  
GCTTTCGGCATCTTCGATGACAGCTTCGAGATCCCCACGTTCCCTCCTGGGGCGCAGGCTGACGACGGCAGGGAC  
CCTGAGAGCCGGCGGGAGAGAGACCATCCGTCCCGGCACCGGTACGGCGCCCGACAGCCCCGCGCCCGCCTCACC  
ACGCGGCGGGCCACCGGCCGGCACGAAGGCGTCCCCACGCTGGAAGGGATCATCCAGCAGCTCGTCAACGGCATC  
ATCACGCCCCGCCACCATCCCCAGCCTGGGCCCCCTGGGGAGTCCTGCACTCAAACCCCTATGGACTACGCCTGGGGG  
GCCAACGGCCTGGATGCCATCATCACACAGCTCCTCAATCAGTTTGAAAAACACAGGCCCCCACCAGGAGATAAA  
GAGAAAATCCAGGCCCTCCCCACCGTCCCCGTCACTGAGGAGCACGTAGGCTCCGGGCTCGAGTGCCCTGTGTGC  
AAGGACGACTACGCGCTGGGTGAGCGTGTGCGGCAGCTGCCCTGCAACCACCTGTTCCACGACGGCTGCATCGTG  
CCCTGGCTGGAGCAGCACGACAGCTGCCCCGTCTGCCGAAAAAGCCTCACGGGACAGAACACGGCCACGAACCCC  
CCTGGCCTCACTGGGGTGAGCTTCTCCTCCTCGTCGTCATCGTCCTCCTCCAGCTCGCCAGCAACGAGAACGCC  
ACAAGCAACTCG**TGAG**CCCCACGTCGGCCGTCGGGAAAGCACGGGGCCTTTCCACCCACCCCTCAGCCAGCGCCAC  
ACGGCACCCACAGACTGGGTGCCCCGGCGGCGCCACGCTTGGCTGGTCAGCGCTGCAGGTCCCGCCTGTTCCAGG  
GCAGGACCCGGGCCCCGGCCACCGGCCCTGGCTTGGGAAGGCGTGGGCCACATGGTCCCCTCTGGGGCGTCCC  
CAGCCTCCCCGTCTCTGTCTAACCTCACCTCTAAACGTTTACGCGGTGGAAGATTTTATAATTTTAAATTAT  
TACTGCTTTGAAATAAACGGACGTTTGAGCTCACGTGGCGGCCATGCATGGTTTGTGGCGGAAGACGGGGCCAG  
CGGCTCCCCCAGCGCTGAAGCACGGGGTTCAGCGGCTCCCCCAGTGCTGCAGGTGCCGCCAGGACGGGGCCACGTG  
GGCCCCCAGCCTCCCCCTCGGCCGCTCCACGACCCGGAGTAGGGGGGCTCGGGACCATGAGGATGACCAGCAAA  
ATTCAAGAACAAAACCTGCTCCAACAGACTTTTTTAAAGGAAAAAATATGTGTATCTTGAAAGCTATTTAAATAC  
ACTACTTACAAAGAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5099**

MAEASPHPGRYFCHCCSVEIVRLPDYICPRCESGFIEELPEETRSTENGSA  
PSTAPTQSRPFLHVHQHLFTL  
PQGYGQFAFGIFDDSFETPTFPFGAQADDGRDPESRRERDHP  
SRHRYGARQPRARLTTRRATGRHEGVPTLEGII  
QQLVNGIITPATIPSLGPWGLHSNPMYAWGANGLD  
AIITQLLNQFENTGPPPADKEKIQALPTVPVTEEHVGS  
GLECPVCKDDYALGERVRQLPCNHLFHDGCIVPWLEQHD  
SCPVCRKSLTGQNTATNPPGLTGVSFSSSSSSSSSS  
SPSNENATSNS

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**FIGURE 5100**

CTTGTGAGTCTATAACTCGGAGCCGTTGGGTGCGTTCCTGCTATTCCGGCGCCTCCACTCCGTCCCCCGCGGGTC  
TGCTCTGTGTGCC**ATG**GACGGCATTGTCCCAGATATAGCCGTTGGTACAAAGCGGGGATCTGACGAGCTTTTCTC  
TACTTGTGTCTACTAACGGACCGTTTATCATGAGCAGCAACTCGGCTTCTGCAGCAAACGGAAATGACAGCAAGAA  
GTTCAAAGGTGACAGCCGAAGTGCAGGCGTCCCTCTAGAGTGATCCACATCCGGAAGCTCCCCATCGACGTCAC  
GGAGGGGGAAGTCATCTCCCTGGGGCTGCCCTTTGGGAAGGTCACCAACCTCCTGATGCTGAAGGGGAAAAACCA  
GGCCTTCATCGAGATGAACACGGAGGAGGCTGCCAACACCATGGTGAACCTACTACACCTCGGTGACCCCTGTGCT  
GCGCGGCCAGCCCATCTACATCCAGTTCTCCAACCACAAGGAGCTGAAGACCGACAGCTCTCCCAACCAGGCGCG  
GGCCCAGGCGGCCCTGCAGGCGGTGAACCTCGGTCCAGTCGGGGAACCTGGCCTTGGCTGCCTCGGCGGCGGCCGT  
GGACGCAGGGATGGCGATGGCCGGGCGAGAGCCCCGTGCTCAGGATCATCGTGGAGAACCTCTTCTACCCCTGTGAC  
CCTGGATGTGCTGCACCAGATTTTCTCCAAGTTCGGCACAGTGTTGAAGATCATCACCTTCACCAAGAACAACCA  
GTTCCAGGCCCTGCTGCAGTATGCGGACCCCGTGAGCGCCAGCACGCCAAGCTGTGCTGGACGGGCAGAACAT  
CTACAACGCCTGCTGCACGCTGCGCATCGACTTTTCCAAGCTCACCAGCCTCAACGTCAAGTACAACAATGACAA  
GAGCCGTGACTACACACGCCCCAGACCTGCCTTCCGGGGACAGCCAGCCCTCGCTGGACCAGACCATGGCCGCGGC  
CTTCGCCTCTCCGTATGACAGCTGGTTTCCCTCCACCTTTGCCATTCTCAAGCTGCAGGCCTTTCCGTTCC  
GAACGTCCACGGCGCCCTGGCCCCCTGGCCATCCCTCGGCGGCGGCGGCAGCTGCGGCGGCAGGTTCGGATCGC  
CATCCCGGCCCTGGCGGGGGCAGGAAATTCTGTATTGCTGGTCAGCAACCTCAACCCAGAGAGAGTCACACCCCA  
AAGCCTCTTTATTCTTTTCGGCGTCTACGGTGACGTGCAGCGCGTGAAGATCCTGTTCAATAAGAAGGAGAACGC  
CCTAGTGACATGGCGGACGGCAACCAGGCCAGCTGGCCATGAGCCACCTGAACGGGCACAAGCTGCACGGGAA  
GCCCATCCGCATCACGCTCTCGAAGCACCAAGCTGCAGCTGCCCCGCGAGGGCCAGGAGGACCAGGGCCTGAC  
CAAGGACTACGGCAACTCACCCCTGCACCGCTTCAAGAAGCCGGGCTCCAAGAACTTCCAGAACATATTCCCGCC  
CTCGGCCACGCTGCACCTCTCCAACATCCCGCCCTCAGTCTCCGAGGAGGATCTCAAGGTCTCTGTTTCCAGCAA  
TGGGGGCGTCTGTCAAAGGATTCAAGTTCTTCCAGAAGGACCGCAAGATGGCACTGATCCAGATGGGCTCCGTGGA  
GGAGGCGGTCCAGGCCCTCATTGACCTGCACAACCACGACCTCGGGGAGAACCACCACCTGCGGGTCTCCTTCTC  
CAAGTCCACCATCT**AG**GGGCGACAGGCCCCACGGCCGGGCCCCCTGGCGACAACCTTCCATCATTCCAGAGAAAAG  
CCACTTTAAAAACAGCTGAAGTGACCTTAGCAGACCAGAGATTTTATTTTTTAAAGAGAAATCAGTTTACCTGT  
TTTTAAAAAATTAAATCTAGTTACCTTGCTCACCTGCGGTGACAGGGACAGCTCAGGCTCTTGGTGACTGTG  
GCAGCGGGAGTTCCCGGCCCTCCACACCCGGGGCCAGACCCTCGGGGCCATGCCTTGGTGGGGCCTGTGTCGGC  
GTGGGGCCTGCAGGTGGGCGCCCCGACCACGACTTGCTTCCCTGTGCTTAAAAAACCTGCCTTCTGACGCCA  
CACACCCACCCGGGGTGTCTTGGGGACCCAAGGGGTGGGGGGGTACACCAGAGAGAGGCAGGGGGCCTGGCCGG  
CTCCTGCAGGATCATGCAGCTGGGGCGCGGCGGCCGCGCTGCGACACCCCAACCCAGCCCTCTAATCAAGTCA  
CGTGATTCTCCCTTACCCCGCCCCAGGGCCTTCCCTTCTGCCCCAGGCGGGCTCCCCGCTGCTCCAGCTGCG  
GAGCTGGTGCACATAATCTCTGTATTATATACTTTGCAGTTGCAGACGTCTGTGCTTAGCAATATTCCAGTTGA  
CCAAATATTCTAATCTTTTTTCAATTATATGCAAAAGAAATAGTTTTTAAGTAACTTTTTATAGCAAGATGATACA  
ATGGTATGAGTGTAATCTAAACTTCCTTGTGGTATTACCTTGTATGCTGTTACTTTTTATTTTATCCTTGTAATT  
AAGTCACAGGCAGGACCCAGTTTCCAGAGAGCAGGCGGGGCCGCCAGTGGGTGAGGCACAGGGAGCCCCGGTCC  
TATCTTAGAGCCCCTGAGCTTCAGGGAAGGGCGGGCGTGTGCGCCCTCTGGCATCGCCTCCGGTTGCCTTACA  
CCACGCCTTCACCTGCAGTCGCCTAGAAAATTGCTCTCAAACCTCAGGGTTTTTTCTTCTTCAAATTTTGGAC  
CAAAGTCTCATTCTGTGTTTTGCTGCTCTGATGCTGGGACCCGGAAGGCGGGCGCTCCTCCTGTCTTCTCTG  
TGCTCTTTCTACCGCCCCCGCTCCTGTCCCGGGGGCTCTCCTAGGATCCCCTTTCCGTAAAAGCGTGTAACAAG  
GGTGTAATATTTTATAATTTTTTATACCTGTTGTGAGACCCGAGGGGCGGCGCGCGGTTTTTTATGGTGACACA  
AATGTATATTTTGCTAACAGCAATTCCAGGCTCAGTATTGTGACCGCGAGCCACAGGGGACCCACGCACATT  
CGTTGCCTTACCCGATGGCTTGTGACGCGGAGAGAACCATTAAACCGTTTGAAGAACTCCTCCCTTGTCTAGC  
CCTGTGTTTCGCTGTGGACGCTGTAGAGGCAGGTTGGCCAGTCTGTACCTGGACTTCGAATAAATCTTCTGTATCC  
TCGCTCCGTTCCGCCTTAAA

A

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**FIGURE 5101**

MDGIVPDIAVGTKRGSDELFSTCVTNGPFIMSSNSASAANGNDSKKFKGDSRSAGVPSRVIHIRKLPIDVTEGEV  
ISLGLPFGKVTNLLMLKGKNQAFIEMNTEEAANTMVNYTTSVTPVLRGQPIYIQFSNHKELKTDSSPNQARAQAA  
LQAVNSVQSGNLALAASAAAVDAGMAMAGQSPVLRRIIVENLFYPVTLDDLHQLFSKFGTVLKIITFTKNNQFQAL  
LQYADPVSAQHAKLSLDGQNIYNACCTLRIDFSKLTSLNVKYNNDKSRDYTRPDLP SGDSQPSLDQTMAAAFASP  
YAGAGFPPTFAIPQAAGLSVPNVHGALAPLAIP SAAAAAAAAGRIAIPGLAGAGNSVLLVSNLNPVRTPQSLFI  
LFGVYGDVQRVKILFNKKENALVQ MADGNQAQLAMSHLNGHKLHGKPIRITLSKHQNVQLPREGQEDQGLTKDYG  
NSPLHRFKKPGSKNFQNIFFPSATLHLSNIPPSVSEEDLKVLFSNNGGVVKGFKFFQKDRKMALIQMGSVEEAVQ  
ALIDLHNHDLGENHHLRVSFSKSTI

CTGTGAGTCTATAAAGTACGAGACCGTTGGGTCGGTTCCTGCTATTCCGGCGCCTCCACTCCGTCCCCCGCGGGTC  
TGCTCTGTGTGCCATGGACGGCATTGTCCCAGATATAGCCGTTGGTACAAAGCGGGGATCTGACGAGCTTTTCTC  
TACTTGTGTCACTAACGGACCGTTTATCATGAGCAGCAACTCGGCTTCTGCAGCAAACGGAATGACAGCAAGAA  
GTTCAAAGGTGACAGCCGAAGTGCAGGCGTCCCCTCTAGAGTGATCCACATCCGGAAGCTCCCCATCGACGTCAC  
GGAGGGGGAAGTCATCTCCCTGGGGCTGCCCTTTGGGAAGGTACCAACCTCCTGATGCTGAAGGGGAAAAACCA  
GGCCTTCATCGAGATGAACACGGAGGAGGCTGCCAACACCATGGTGAAGTACTACACCTCGGTGACCCCTGTGCT  
GCGCGGCCAGCCCATCTACATCCAGTTCTCCAACCACAAGGAGCTGAAGACCGACAGCTCTCCCAACCAGGCGCG  
GGCCCAGGCGGGCCTGCAGGCGGTGAAGTCCGGTCCAGTCCGGGAACCTGGCCTTGGCTGCCTCGGCGGCGGGCCGT  
GGACGCAGGGATGGCGATGGCCGGGCAGAGCCCCGTGCTCAGGATCATCGTGGAGAACCTCTTCTACCCCTGTGAC  
CCTGGATGTGCTGCACCAGATTTTCTCCAAGTTCGGGCACAGTGTTGAAGATCATCACCTTCACCAAGAACAACCA  
GTTCCAGGCCCTGCTGCAGTATGCGGACCCCGTGAGCGCCAGCAGCCAAGCTGTGCTGGACGGGCAGAACAT  
CTACAACGCCTGCTGCACGCTGCGCATCGACTTTTCCAAGCTCACCAGCCTCAACGTCAAGTACAACAATGACAA  
GAGCCGTGACTACACACGCCCAGACCTGCCTTCCGGGGACAGCCAGCCCTCGCTGGACCAGACCATGGCCGCGGC  
CTTCGGTGCACCTGGTATAATCTCAGCCTCTCCGTATGCAGGAGCTGGTTTCCCTCCCACCTTTGCCATTCTCTCA  
AGCTGCAGGCCTTTCCGTTCCGAACGTCCACGGCGCCCTGGCCCCCTGGCCATCCCTCGGCGGCGGCGGCAGC  
TGCGGCGGCAGGTCCGATCGCCATCCCGGGCCTGGCGGGGGCAGGAAATCTGTATTGCTGGTCAGCAACCTCAA  
CCCAGAGAGAGTACACCCCAAAGCCTCTTTATTCTTTTCGGCGTCTACGGTGACGTGCAGCGCGTGAAGATCCT  
GTTCAATAAGAAGGAGAAGCCCTAGTGCAGATGGCGGACGGCAACCAGGCCAGCTGGCCATGAGCCACCTGAA  
CGGGCACAAAGCTGCACGGGAAGCCCATCCGCATCACGCTCTCGAAGCACCAGAACGTGCAGCTGCCCCGCGAGGG  
CCAGGAGGACCAGGGCCTGACCAAGGACTACGGCAACTCACCCCTGCACCGCTTCAAGAAGCCGGGCTCCAAGAA  
CTTCCAGAACATATTTCCGCCCCTCGGCCACGCTGCACCTCTCCAACATCCCGCCCTCAGTCTCCGAGGAGGATCT  
CAAGGTCTGTGTTTTCCAGCAATGGGGGCGTGCCTCAAAGGATTCAAGTCTTCCAGAAGGACCGCAAGATGGCACT  
GATCCAGATGGGCTCCGTGGAGGAGGCGGTCCAGGCCCTCATTGACCTGCACAACCACGACCTCGGGGAGAACCA  
CCACCTGCGGGTCTCCTTCTCCAAGTCCACCATCTAGGGGCACAGGCCCCACGGCCGGGGCCCCCTGGCGACAAC  
TTCCATCATTCCAGAGAAAAGCCACTTTAAAAACAGCTGAAGTGACCTTAGCAGACCAGAGATTTTATTTTTTTA  
AAGAGAAATCAGTTTACCTGTGTTTTTAAAAAATTAAATCTAGTTACCTTGCTCACCCTGCGGTGACAGGGACAG  
CTCAGGCTCTTGGTGACTGTGGCAGCGGGAGTTCCCGGCCCTCCACACCCGGGGCCAGACCCTCGGGGCCATGCC  
TTGGTGGGGCCTGTGTGCGGCGTGGGGCCTGCAGGTGGGCGCCCCGACCACGACTTGGCTTCTTGTGCTTAA  
AAACCTGCCTTCTGTCAGCCACACACCCACCCGGGGTGTCTGGGGACCCAAGGGGTGGGGGGGTACACCAGAG  
AGAGGCAGGGGGCCTGGCCGGCTCCTGCAGGATCATGCAGCTGGGGCGCGGCGGCCGCGGTGCGACACCCCAAC  
CCCAGCCCTCTAATCAAGTCACGTGATTCTCCCTTACCCCGCCCCCAGGGCCTTCCCTTCTGCCCCAGGCGGG  
CTCCCCGCTGCTCCAGCTGCGGAGCTGGTCGACATAATCTCTGTATTATATACTTTGCAGTTGCAGACGTCTGTG  
CCTAGCAATATTTCCAGTTGACCAAAATATTCTAATCTTTTTTCAATTTATATGCAAAAAGAAATAGTTTTAAGTA  
TTTTTATAGCAAGATGATACAATGGTATGAGTGTAATCTAAACTTCTTGTGGTATTACCTTGTATGCTGTTACT  
TTTATTTTATTCTTGTAAATTAAGTCACAGGCAGGACCCAGTTTCCAGAGAGCAGGCGGGGCCGCCAGTGGGT  
AGGCACAGGGAGCCCCGGTCTATCTTAGAGCCCTGAGCTTCAGGGAAGGGGCGGGCGTGTGCGCGCCTCTGGC  
ATCGCCTCCGGTTGCCTTACACCACGCCTTACCTGCAGTCGCCTAGAAAACCTTGCTCTCAAACCTCAGGGTTTT  
TTCTTCTTCAAATTTTGGACCAAAGTCTCATTTCTGTGTTTTGCTGCTCTGATGCTGGACCCGGAAGGCGG  
GCGTCTCTCTGTCTTCTGTGCTCTTTCTACCGCCCCCGCTCCTGTCCCGGGGGCTCTCCTAGGATCCCCCT  
TCCGTAAAAGCGTGTAACAAGGTGTAAATATTTTATAATTTTTTATACCTGTTGTGAGACCCGAGGGGCGGCGG  
GCGGTTTTTTATGGTGACACAAATGTATATTTTGTAAACAGCAATTCCAGGCTCAGTATTGTGACCGGGAGCCA  
CAGGGGACCCACGCACATTCCGTGTCCTTACCCGATGGCTTGTGAACGCGGAGAGAACCATTAAACCGTTTGA  
GAAACTCCTCCCTTGTCTAGCCCTGTGTTGCTGTGGACGCTGTAGAGGCAGGTTGGCCAGTCTGTACCTGGACT  
TCGAATAAATCTTCTGTATCCTCGCTCCGTTCCGCCTTAAAAA  
AAAAAAAAAAAAAAAAAAAA



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**FIGURE 5103**

MDGIVPDIAVGTKRGSDELFSTCVTNGPFIMSSNSASAANGNDSKKFKGDSRSAGVPSRVIHIRKLPIDVTEGEV  
ISLGLPFGKVTNLLMLKGKNQAFIEMNTEEAANTMVNYTTSVTPVLRGQPIYIQFSNHKELKTDSSPNQARAQAA  
LQAVNSVQSGNLALAASAAAVDAGMAMAGQSPVLRIIVENLFYPVTLDDLHQLFSKFGTVLKIITFTKNNQFQAL  
LQYADPVSAQHAKLSLDGQNIYNACCTLRIDFSKLTSLNVKYNNDKSRDYTRPDLP SGDSQPSLDQTMAAAF GAP  
GIISASPYAGAGFPPTFAIPQAAGLSVPNVHGALAPLAIP SAAAAAAGRIAIPGLAGAGNSVLLVSNLNP ERV  
TPQSLFILFGVYGDVQRVKILFNKKENALVQ MADGNQAQLAMSHLNGHKLHGKPIRITLSKHQNVQLPREGQEDQ  
GLTKDYGNSPLHRFKKPGSKNFQNI FPPSATLHLSNIPPSVSEEDLKVL FSSNGGVVKGF KFFQKDRKMALIQMG  
SVEEAVQALIDLHNHDLGENHHLRVSF SKSTI

[illegible]

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**FIGURE 5105**

MKLQAVMETLLQRQQRARQELEARQQLPPDPPAAPPGRARAAPDEDREPESARMQRAQMAALAAMRAAAAGLGHP  
ASPGGSEDGPPGSEEEEDAAREGTPGSPGRGREGPGEEHFEDMASDEDMKPKWEEEEEEMEEDLGEDEEEEEEDYEDE  
EEEEDEEGLGPPGPASLGTTALFPRKAQPPQAFRGDGVPRVLGGQERPGPGPAHPGGAHVAPQLQPPDHGDWTY  
EEQFKQLYELDGDPKRKEFLDDLF SFMQKRGTPVNRIPIMAKQVLDLFMLYVLVTEKGGLVEVINKKLWREITKG  
LNLPTSITSAAFTLRTQYMKYLYPYECEKRGLSNPNELQAAIDSNRREGRRQSFGGSLFAYSPGGAHGMLSSPKL  
PVSSLGLAASTNGSSITPAPKIKKEEDSAIPITVPGRLPVSLAGHPVVAAQAAAVQAAAAQA AVAAQAAALEQLR  
EKLESAEPPEKKMALVADEQQRLMQRALQQNFLAMAAQLPMSIRINSQASESRQDSAVNLTGTNGSNSISMSVEI  
NGIMYTGVLFAQPPAPTPTSAPNKG GGGGGGSSSNAGGRGNTGTSGGQAGPAGLSTPSTSTSNNSLP

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**FIGURE 5106**

GGCAAGATGGCGGCGCCCATGGAGGTGGCCGTGTGTACGGACTCGGCGGCCCCGATGTGGAGCTGCATCGTGTGG  
GAACTTCACTCGGGCGCCAACCTGCTCACCTACCGCGGCGGCCAGGCGGGACCCCGCGGCCCTGGCGCTGCTCAAT  
GGCGAGTATCTGCTGGCGGCGCAGCTGGGCAAGAATTACATCAGCGCCTGGGAGCTCCAGCGGAAGGACCAGCTC  
CAGCAGAAGATCATGTGCCCCGGGCCTGTCACTGTCTGACTGCATCACCCAATGGTCTCTACGTCCTGGCAGGA  
GTTGCAGAAAGCATCCACCTGTGGGAGGTCTCCACCGGGAACCTTCTGGTTCATCCTGAGTCGACACTACCAGGAC  
GTCTCCTGCCTTCAGTTCACAGGGGACAGCAGCCACTTCATCTCAGGGGGCAAGGACTGCCTGGTGCTGGTTTGG  
AGCCTCTGCAGCGTGCTGCAGGCCGACCCCTCCAGGATTCCGGCGCCCAGGCACGTCTGGTCTCACCACGCGCTC  
CCCATCACGGACCTGCACTGCGGCTTTGGGGGCCCCCTGGCCCCGGGTGGCCACCTCCTCACTGGACCAGACGGTG  
AAGCTATGGGAGGTCTCCTCGGGGGAGCTGCTGCTCTCCGTCTCTTTGACGTGTCCATCATGGCAGTGACCATG  
GACCTGGCTGAGCACCATATGTTCTGCGGGGCGAGTGAGGGCTCCATCTTCCAGGTGACCTCTTCACCTGGCCC  
GGACAGAGGGGAGAGGAGCTTCCACCCAGAGCAGGACGCCGGGAAGGTCTTCAAAGGGCACAGGAACCAGGTGACT  
TGCCTGTCAGTGTCCACTGACGGCAGCGTGCTGCTCTCAGGCTCCCACGACGAGACCGTGCGCCTCTGGGACGTG  
CAGAGCAAGCAGTGATCCGGACGGTGGCCCTCAAAGGCCCCAGTCACCAATGCCGCCATCCTGCTGGCGCCCGTC  
AGCATGCTGAGCTCAGACTTCAGGCCCAGCCTGCCGCTGCCCCACTTCAACAAGCACCTGCTGGGCGCCGAGCAC  
GGGGACGAGCCGCGCCACGGGGGCCTCACTCTGCGCCTGGGCCTCCACCAGCAGGGCTCGGAGCCCAGCTACCTG  
GACCGCACGGAGCAGCTGCAGGCCGTCTGTGTCAGCACCATGGAGAAGAGCGTGCTCGGCGGCCAGGACCAGCTG  
CGCGTCCGTGTGACGGAGCTGGAGGACGAGGTGCGCAACCTGCGCAAGATCAATCGGGACCTGTTGACTTCTCC  
ACGCGCTTCATCACGCGGCCGGCCAAGTGAGGGCCCGGAGACCCCGGCCCGAGGCGCCCAGGCCTGAGCCCCATGC  
CTCCCAGCAACCAGGGCCCCGCGGTGTGGCCCCCACCAGCCCAGGCCTGGACTCTCCTCAGTTCTGTGTCGTGTT  
CGGGTTTTTCTCTGTGACTGGGCCGTCTTGGTGTCTCGTGGCACGCGTCACAGTGGTGCTAGTCTGTTTTTAAC  
AAAAGAGGATGAAAAGCC

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**FIGURE 5107**

MAAPMEVAVCTDSAAPMWSCIVWELHSGANLLTYRGGQAGPRGLALLNGEYLLAAQLGKNYISAWELQRKDQLQQ  
KIMCPGPVTCLTASPNGLYVLAVAGVAESIHLWEVSTGNLLVILSRHYQDVSCLOFTGDSSHFISGGKDCLVLVWSL  
CSVLQADPSRIPAPRHVWSHHALPITDLHCGFGGGLARVATSSLDQTVKLWEVSSGELLSSVLFVDSIMAVTMDL  
AEHHMFCGGSEGSIFQVDLFTWPGQRERSFHPEQDAGKVFKGHRNQVTCLSVSTDGSLVSSGSHDETURLWDVQS  
KQCIRTVALKGPVTNAAILLAPVSMSSDFRPSLPLPHFNKHLGAEHGDEPRHGGLTLRLGLHQQGSEPSYLDL  
TEQLQAVLCSTMEKSVLGGQDQLRVRVTELEDEVRLNRKINRDLDFDFSTRFITRPAK

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**FIGURE 5108**

ATGAGCTCCACGCAGTTCAACAAGGGCCCCCTCGTACGGGCTGTCGGCCGAGGTCAAGAACCGGGCTCCCGCGAAT  
CTTGGGGAGCACCCAGGTCTGAGATCTGGGGGACGAGTGACCCATTCCCCCCCCAACATCTAGGGGTAGTTGGG  
TCTGACTTCGTCCCCCTCGCCATGGCCCCAGGACCCCCACGTGTCCTTACAGCTGACTTCTGCAGGGGAAACTGCC  
TCTGCACGCTCTGAGGGCACCGGCCCTGCCAGCCCCAACAGCCACCTGCCCGGCGGCACTCCAGGGCCGGCAGAC  
TGGAGGGAGAATTCTTGCTTCCCCGCTGGGGCCATCTGCACCCTGCATTTCATAGAGCCCCCGTGCAGTGGGGTGG  
GCACCCTGCCGCACCCTGCATACAGCCGGCTAA

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**FIGURE 5109**

ACCAGCTCCTGTCCAAATATGACCCCCAGAAGGAGGCAGAGCTCCGCACCTGGATCGAGGGACTCACCGGCCTCT  
CCATCGGCCCCGACTTCCAGAAGGGCCTGAAGGATGGAACATCTTATGCACACTCATGAACAAGCTACAGCCGG  
GCTCCGTCCCCAAGATCAACCGCTCCATGCAGAACTGGCACCAGCTAGAAAACCTGTCCAACCTCATCAAGGCCA  
TGGTCAGCTACGGCATGAACCCTGTGGACCTGTTTCGAGGCCAACGACCTGTTTGAGAGTGGGAACATGACGCAGG  
TGCAGGTGTCTCTTCTCGCCCTGGCGGGGAAGGCCAAGACTAAGGGGCTGCAGAGCGGGGTGGACATTGGCGTCA  
AGTACTCGGAGAAGCAGGAGCGGAATTTTCGACGATGCCACCATGAAGGCTGGCCAGTGCCTCATCGGGCTGCAGA  
TGGGCACCAACAAATGCGCCAGCCAGTCGGGCATGACTGCCTACGGCACGAGAAGGCATCTCTATGACCCCCAAGA  
ACCATATCCTGCCCCCATGGACCACTCGACCATCAGCCTCCAGATGGGCACGAACAAGTGTGCCAGCCAGGTGG  
GCATGACGGCTCCCGGGACCCGGCGGCACATCTATGATACCAAGCTGGGAACCGACAAGTGTGACAACTCCTCCA  
TGTCCCTGCAGATGGGCTACACGCAGGGCGCCAACCAGAGCGGCCAGGTCTTCGGCCTGGGCCGGCAGATATATG  
ACCCCAAGTACTGCCCCGAAGGCACAGTGGCCGATGGGGCTCCCTCGGGCACCGGCGACTGCCCCGACCCGGGGG  
AGGTCCCTGAATATCCCCCTTACTACCAGGAGGAGGCCGGCTACTGAGGCTCCCAGCACGCTCTCTCCCCACATC  
GTCTGCCCATCTGGGTTTTTGGGTTTTTCTGTGTTTTTCATCTTTTTTTTTTTTTTTCTTAACCCGTTCACTGCTGC  
CAGTCAACCAAGGGTCTGTGAGTGTGACGCTGGGATCAGGCAGCAGAGCTTTTTTCCCCTTTGCCTTGATCCTTC  
GCAAGGCTGAGCCACTGGGCTGTGGGGGAAGGGGTCAAGGCCATATCCAATACGTGTAGGGCGAGGGTCCCTGC  
TGGCACATTAGGCTGTGCTGGGAAGAAGAGACCTGGGCTTGGAAGGAACCGGTCCCCGACGGTTTTCTGCTTGCC  
TCGCCTCTTCCCCCTTTTGTGCTGAGCAGTTTGTGGTTTTCTATGCCCCGAAGTTTCAGGAAGTATTCACAAAA  
GAAAAATACATTTTTTCCCCCAGGGGTGGGGCAAGGACAGTGGAGAGAGTGTAGGAAATGAGTCCCCTGGGAAA  
GGGGACCGGGCCGTGATGTTAAATATCTCCGGCTCCCAAGTACTGGATTGCTTAGGACCTTCAGACCAACAGA  
CTTCAGACCCTCAGACCTGCCCCGGGGCCAGGTGGAGAAAGTGGGGCCGTACAAGGAAGTGAAATTCTGAGTTG  
TTGGGGCTAAGCCTGACCCCTCTCCATGCTCCCCGCCCCAACCCTCTGGCCTCAGTAGATTTTTTTTTTTCAGT  
TGTGGTTGTTGCCAGGCTGGAGTGCAGTGGCGCCATCTGGCTCACTGCACCTCCACCTTCCGGGGCTCAAGCGA  
TTCTCCAGCCTCAGCCTCCTGAGTAGCTAGGACTGCAGGTGCTCCACCACGCCCCGGCTAATTTTTGTATTTTTAG  
TAGAGATGGGGTTTTCCCCTGTTGGCCAGGCTGGTCTCGAACTCCTGGCCTCAGGTGTGATCCGCCCCGCTCCGC  
CTCCCCAAGCGCTGAGATTACAGGTGTGAGCCACCGTGCCCAGCCCCCTCAGTAGGTTTTTAAGGAGCCCCCAGCCC  
TCCTCCCTTCTGGGCCCCGACCAGCTTATACTGCTCCATCTTCCCCGGCCACATGCCCGCCCAAGTACTGCACAGG  
GACCCCCACCCAGGGGACCTGCTCCGTGAGATAATGTGAAATACGACTGTGGACCAAACGCAATAAAACCTCTG  
TTGTACGAAG

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**FIGURE 5110**

GGCGGCGGCGGCGGAGGCTGCCATGGACGACGAGGAGGAGACGTACCGGCTCTGGAAAATCCGCAAGACCATCAT  
GCAGCTGTGCCACGACCGTGGCTATCTGGTGACCCAGGACGAGCTTGACCAGACCCTGGAGGAGTTCAAAGCCCA  
ATCTGGGGACAAGCCGAGTGAGGGGCGGCCGCGGCGCACGGACCTCACCGTGCTGGTGGCCCAACGATGACCC  
CACCGACCAGATGTTTGTGTTCTTTCCAGAGGAGCCCAAGGTGGGCATCAAGACCATCAAGGTGTACTGCCAGCG  
CATGCAGGAGGAGAACATCACACGGGCTCTCATCGTGGTGACGAGGGCATGACACCCTCCGCCAAGCAGTCCCT  
GGTCGACATGGCCCCCAAGTACATCCTGGAGCAGTTTCTGCAGCAGGAGCTGCTCATCAACATCACGGAGCACGA  
GCTAGTCCCTGAGCACGTCGTCATGACCAAGGAGGAGGTGACAGAGCTGCTGGCCCGATATAAGCTCCGAGAGAA  
CCAGCTGCCCAGGATCCAGGCGGGGACCCCTGTGGCGCGCTACTTTGGGATAAAGCGTGGGCAGGTGGTGAAGAT  
CATCCGGCCCAGTGAGACGGCTGGCAGGTACATCACCTACCGGCTGGTGACGTAGCTACCGCCTGACAGCCCCTA  
GAGGCGGACACACAGCGACCCCCATCCCTGCAGGACAAACGCCCCCTGCCCTGCCAGAATCCGGCCCCACAGCTC  
TCACGGCTGCTGCTCCTCTGGACTCCCCAAGGCAGGTGGCCTCCACCCACGTTCTCCCGTCCCTGGGGTGAGGCTT  
CCTGTGGCCAGCCCGCCCCATTACCTGTGGATTTGTGCGAGATGCAGCCTCAGAAGGAACAAGGCCCCAGAG  
GGAGGTACCTGGGGGAGCTGGTGCCGGGTCTTCACCCAGACCACGCTGGGTCCCCTCTGTTGGGGGTTTGGGG  
TCCGGGTCTCCCACCAGCCACTGCTTCCTCCTGGGCCCTCGGCCCTCCACCCCTCGTCTTCCCTCCCTCGGGGGC  
CCTGATGCGTGGCGGCCCCCGCCGGCCTCGGCTCTTTACTCCATTACAGCCATGCACGCGCTCAAGCCACCAG  
GGTCCGAGATGCCAGCTCTGGAGTTCTCGGTTGTTGTAGGAGTTGGGTGTTTTCAAATGGTAAAGATGTTTTGA  
GCAAATAAATTGCTTGATACAG



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**FIGURE 5111**

MDDEEETYLWKIRKTIMQLCHDRGYLVTQDELDQTLEEFKAQSGDKPSEGRPRRTDLTVLVAHNDDPTDQMFVF  
FPEEPKVGIKTIKVYCQRMQEENITRALIVVQQGMTPSAQSLVDMAPKYILEQFLQQELLINITEHELVPHEHV  
MTKEEVTELLARYKLRENQLPRIQAGDPVARYFGIKRGQVVKIIRPSETAGRYITYRLVQ

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**FIGURE 5112**

CGGGGAGGCGCGGAAAGCCGACGCGCGTCCATTGGTCGGCTGGACGAGGGGAGGAGCCGCTGGCTCCCAGCCCCG  
CCGCGATGAGCCTCGGCCGCCCTTGCCGCCCTACTGAAGCCGGCGCTGCTCTGTGGGGCTCTGGCCGCGCCTGGCC  
TGGCCGGGACCATGTGCGCGTCCCGGGACGACTGGCGCTGTGCGCGCTCCATGCACGAGTTTTCCGCCAAGGACA  
TCGACGGGCACATGGTTAACCTGGACAAGTACCGGGGCTTCGTGTGCATCGTCACCAACGTGGCCTCCCAGTGAG  
GCAAGACCGAAGTAACTACACTCAGCTCGTCGACCTGCACGCCCAGATACGCTGAGTGTGGTTTTCGGGATCCTGG  
CCTTCCCGTGTAACCAAGTTCGGGAAGCAGGAGCCAGGGAGTAACGAAGAGATCAAAGAGTTTCGCCGCGGGCTACA  
ACGTCAAATTCGATATGTTTACGCAAGATCTGCGTGAACGGGGACGACGCCACCCGCTGTGGAAGTGGATGAAGA  
TCCAACCCAAGGGCAAGGGCATCCTGGGAAATGCCATCAAGTGGAACTTCACCAAGTTCCTCATCGACAAGAACG  
GCTGCGTGGTGAAGCGCTACGGACCCATGGAGGAGCCCCCTGGTGATAGAGAAGGACCTGCCCCACTATTTCTAGC  
TCCACAAGTGTGTGGCCCCGCGAGCCCCCTGCCACGCCCTTGGAGCCTTCACCGGCACCTCATGACGGCCTGC  
CTGCAAACCTGCTGGTGGGGCAGACCCGAAAATCCAGCGTGCACCCCGCCGAGGAAGGTCCCATGGCCTGCTGG  
GCTTGGCTCGGCGCCCCCACCCCTGGCTACCTTGTGGGAATAAACAGACAAATTAGAAAAAAAAAAAAAAAAA

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**FIGURE 5113A**

GCCCCGAAACCCGGAAGTGAGCGGCGGCAGCTGCGAGGCTCGGAGAAACAGGCGCCGCGGGCTCCGCGCCCGGCCG  
GACCCGGGCCCCGAGATCATGATGCTGCCGCCACCGCCGCCACCACGGAGCGAGAAGCCAGATAGACGCCCCGGC  
GGCCCCGGGTCTTGAGTCCCGCCGCTGCTGCCCGGCCGAGGACCCACCCCGCTGCCGCCGATGCTTGACG  
TGGGGCCCGCCATGGACAGGGATTACCCGCGAGCATGAACCCCGCCGCGGGCAGCCTCTGTACAGCCCGCCGC  
CCCTGCAGAGCGCCATGCTGCACTGCCCTACTGGAACACCTTCTCGCTGCCGCCATACCCTGCCTTCTCCAGCG  
ACAGCCGCCCCGTTTCATGAGCTCCGCTCCTTCTCGGCAGCCAGCCCTGCCAGACACCAGCTATGCCCCCGTGG  
CCACCGCCTCCAGCTTGCCACCAAAGACCTGCGACTTGTCTCAGGACTCCTCCTATTTTGAGGACTTCTCCAACA  
TCTCCATCTTCTCCTCGTCCGTGGACTCCCTGTGCGACATCGTGGACACGCCCCGACTTCTGCCGGCTGACAGCC  
TCAACCAGGTGTCCACCATCTGGGACGATAACCCTGCCCCCTCCACCCACGATAAGCTGTTCCAGCTCAGCAGGC  
CGTTTGCAGGCTTCGAGGACTTTCGCCCCCTCCACAGCACCCGCTTCTCGTCAGCTACCAGGAGCAGAGTGTGC  
AGAGCCAGCCAGAGGAGGAGGACGAGGCTGAGGAGGAGGAGGCGGAGGAGCTGGGGCACACAGAGACCTACGCCG  
ACTACGTGCCGTCCAAGTCCAAGATCGGGAAGCAGCACCCAGACCGCGTGGTGGAGACCAGCACACTGTCCAGCG  
TCCACCCCCAGACATCACCTACACCTGGCCCTGCCCTCGGACAGCGGGGCCCTGTCTGCCCTGCAGCTAGAGG  
CCATCACCTACGCTGCCAGCAACACGAGGTCTGTCTCCCGAGCGGGCAGCGCGCGGGCTTCTCATCGGCGATG  
GGGCGGCGTGGGCAAAGGCCGACGGTGGCCGGAGTCATCTGGAGAACCACCTGCGCGGCCGGAAGAAAGCAT  
TGTGGTTCAGCGTCTCCAACGACCTCAAGTACGATGCGGAGCGCGACCTGCGGGACATCGAAGCCACGGGCATCG  
CGGTGCACGCGCTCAGCAAGATCAAGTACGGTGACACCACTACCTCAGAGGGCGTCTCTTCGCCACCTACTCCG  
CCCTGATTGGGGAGAGCCAGGCCGCGCGCCAGCACCGCACTCGCCTCCGGCAGATCCTGGACTGGTGTGGGGAGG  
CCTTCGAGGGCGTCATCGTGTTCGACGAGTGTCAAAAGCCAAGAATGCCGGCTCCACCAAGATGGGCAAGGCTG  
TGCTAGACCTGCAGAACAAGCTGCCCTGGCCCGCGTGGTCTACGCCAGCGCCACAGGTGCCTCTGAGCCTCGGA  
ACATGATCTACATGAGCCGCTTGGGTATCTGGGGCGAGGGCACACCCTTCCGGAACCTTGAGGAGTTCTGTCACG  
CCATCGAGAAGAGGGGCGTGGCGCCATGGAGATCGTGGCCATGGACATGAAGGTGAGCGGCATGTACATCGCAC  
GCCAGCTCAGCTTCTCCGGCGTCACCTTCCGCATCGAGGAGATCCGCTGGCCCCAGCCTTCGAGTGCCTCTACA  
ACCGCGCGGCCCTGCTGTGGGCGGAGGCCCTGAACGTGTTCCAGCAGCGCGCCGACTGGATCGGCCTGGAGTGC  
GCAAGTCCCTGTGGGGCCAGTTCTGGTTCGGCACACCAGCGCTTCTTCAAGTATCTGTGCATCGCAGCCAAGGTGC  
GCCGGCTGGTGGAGCTGGCCCCGAGAGGAGCTGGCGCGAGACAAGTGCCTGGTTCATCGGGCTGCAGTCCACGGGCG  
AGGCGCGCACGCGGGAGGTGCTGGGGGAGAACGATGGGCACCTCAACTGCTTCGTCTCGGCCGCTGAAGGCGTGT  
TCCTGTGCTAATTGAGAAGCACTTTCGTTCCACCAAGAGAAAGCGGGACAGAGGAGCGGGCAGCAAGCGGAAAC  
GGCGACCTCGGGGACGCGGGGCCAAAGCCCCCGGCTGGCGTGCAGACAGCGGGCGTCATCCGCATCAGTGACG  
ACAGCAGCACGGAGTCGGACCCCTGGCCTGGACAGCGACTTCAACTCCTCCCCGAGTCCCTGGTGGATGACGACG  
TTGTATCGTTGATGAGTCCGGCTCCCCAGTGACGACCGGGGACCCCTGTGCCTCCTGCAGAGAGACCCGCATG  
GCCCCGGGGTCTTGAGCGGGTGGAGCGGCTGAAGCAGGATCTGCTGGACAAAGTGCGGCGGCTGGGCCGGGAAC  
TGCCAGTCAACACCCTGGACGAGCTCATCGACCAGCTGGGCGGCCCCAGCGGGTGGCGGAGATGACCGGCAGGA  
AAGGCCGCGTGGTGTCCAGGCCCGACGGGACGGTGGCCTTCGAGTGCGGGCAGAGCAGGGTCTGTCCATCGACC  
ACGTGAACCTCAGGGAGAAGCAGCGCTTCATGAGCGGCGAGAAGCTCGTGGCCATCATCTCGGAGGCCCTCAGCT  
CGGGTGTCTCCCTCCAAGCCGACCGCCGTGTCCAGAACCAGCGGCGCGCGTGCACATGACCTTGGAGCTGCCGT  
GGAGCGCCGACCGCGCCATCCAGCAGTTCCGGCCGACCCACCGGTCCAACCAGGTCTCCGCGCCAGAGTATGTCT  
TCCTCATCTCGGAGCTGGCCGGGGAGCGCCGGTTCGCCTCCATCGTGGCCAAGCGCCTGGAGAGTCTGGGGGCCC  
TGACCCACGGAGACCGCCGCGCCACGAGTCCCGTGACCTCAGCAAGTACAACCTTGAGAACAAGTATGGCACCC  
GGGCCCTGCACTGTGTCTCACCACCATCCTGAGCCAGACTGAGAACAAGTGCCTGTGCCCCAGGGATACCCTG  
GAGGGGTCCCCACCTTCTTCCGGGACATGAAGCAGGGCCTGCTGTCTGTGGGCATTGGTGGCCGGGAGTCCCGGA  
ATGGCTGCCTGGACGTGGAGAAGGACTGTTCATCACCAAGTTCTGAACCGCATCCTGGGGCTGGAGGTGCACA  
AGCAGAACGCCCTGTTCCAGTACTTCTCAGACACCTTCGACCACCTCATCGAGATGGACAAGCGGGAGGGCAAAT  
ACGACATGGGCATCCTGGACCTTGTCCCCTGATCGAGGAGATCTACGAGGAGAGCCAGCAGGTGTTCTGGCTC  
CCGGGCACCCGAGGACGGGACGGTGGTCTTCTACAAGATCAGCGTGGACCGCGGCCTGAAGTGGGAGGACGCCT  
TTGCCAAGTCGCTGGCGCTGACGGGCCCTATGACGGCTTCTACCTCTCTACAAGGTCCGCGGTAACAAGCCCA  
GCTGCCTGTGCGGAGCAGAACCAGCGGCCAGTTCTTACGGTGTACAAGCCCAACATCGGCCGGCAGAGCCAGC  
TGGAGGCCCTGGACAGCCTCCGCCGCAAGTTCCACCGGGTCACCGCGGAGGAGGCCAAGGAGCCCTGGGAGAGTG

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**FIGURE 5113B**

GCTACGCTTTGTGCTGACGCACTGCAGCCACAGCGCCTGGAACCGGCACTGCCGGCTGGCGCAGGAGGGTAAGG  
ACTGCCTGCAGGGGCTGCGGCTGCGGCACCACTACATGCTGTGCGGCGCGCTGCTGCGCGTGTGGGGCCGCATCG  
CCGCCGTCATGGCCGACGTCAGCAGCAGCAGCTACCTGCAGATCGTGCGGCTGAAGACCAAGGACAGGAAGAAGC  
AAGTGGGCATCAAGATCCCCGAGGGCTGCGTGCGCCGGGTGCTGCAGGAGCTGCGGCTGATGGATGCGGACGTGA  
AGCGCAGGCAGGCGCCCGCCCTGGGCTGCCCCGCCCCGCCCCGCCCCGCGCCCGCTGGCGCTGCCTTGCGGCCCCG  
GAGAGGTGCTGGACCTCACCTACAGCCCCCGGCCGAGGCCTTCCCGCCGCCCCCGCACTTCTCTTTCCCGGCGC  
CGCTGTCCCTGGACGCCGGCCCCGGCGTCGTGCCGCTGGGCACCCCCGACGCCCAGGCCGACCCTGCGGCCCTCG  
CGCACCAGGGCTGCGACATCAACTTCAAGGAGGTGCTGGAGGACATGCTGCGCTCGCTGCACGCGGGGCCGCCCT  
CCGAGGGCGCGCTGGGGGAGGGCGCGGGGGCGGGGGCGCGGGCGGGCGGTGGTCCCGAGCGGCAGAGCGTGATCC  
AGTTCAGCCACCCCTTCCCCGGCGCCAGGCTCCTCTCTGACACGCCTTTAGGCGAAACATGCCCCAAGACACAG  
GGACCGTTTCTCCCTAGGAGCAGCGGTGGGGAGCAGGGCCAAGGTCCCTTGACCACTGCTCAGAGGAGCCCTAG  
GCCCTGGCCGCACTGCCCTTACGCGCCGACCCGGGCCCCCACCTGGTCAGCCCTGGCGGGGGCCCACTCAGGACAG  
CTGGGGGCCGGGGCGTGGCAGGGCCCTCTCTGTGCCTCTCCTCCCAAGTAGGAAGGGGCTCCGGGTGGCTGCTCT  
GGGACTGGGCACCCACAAGGGCTCAGTGGGGCCCAAACCCTTGAAATCCGTGAAACCGGGTGGTCCCAAGAGCTAG  
AAACTCAGGAAAACCCAGGTGCTCAGGGCCCCGCGTCTCGGGGGCTCCGTGGGGCAGACCCCTGCTAATATATGC  
AATTCTCCCTCCCCCAGCCCTTCCCTGACCCCTAAGTTATTGCCCCGCTCACCTCTCCAGGCCCCAGGCCGCGGA  
GCTGGCAGGGTGGCGCCTGCGGTTTCTATGTATTTATAGCAAGTTCTGATGTACATATGTAAAGGACTTTTTTAA  
AT

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**FIGURE 5114**

CCCAGGGTCCCCGAGGACGAAGTTGACCCTGACCGGGCCGTCTCCCAGTTCTGAGGCCCGGGTCCCACTGGAACT  
CGCGTCTGAGCCGCCGTCCCGGACCCCGGTGCCCGCCGTCCGCAGACCCTGCACCGGGCTTGGACTCGCAGCC  
GGGACTGACGTGTAGAACAATCGTTTTCTGTTGGAAGAAGGGTTTTTCCCTTCCTTTTGGGGTTTTTGTTCCTTT  
TTTTTTCTTTTTCTTTGTAAATTTTGGAGAAGGGAAGTCGGAACACAAGGAAGGACCGCTCACCCGCGGACT  
CAGGGCTGGCGGCGGGACTCCAGGACCCTGGGTCCAGCATGGAGGTGGTGGACCCGCAGCAGCTGGGCATGTTCA  
CGGAGGGCGAGCTGATGTCGGTGGGTATGGACACGTTTCATCCACCGCATCGACTCCACCGAGGTCTCTACCAGC  
CGCGCCGCAAGCGGGCCAAGCTCATCGGCAAGTACCTGATGGGGGACCTGCTGGGGGAAGGCTCTTACGGCAAGG  
TGAAGGAGGTGCTGGACTCGGAGACGCTGTGCAGGAGGGCCGTCAAGATCCTCAAGAAGAAGAAGTTGCGAAGGA  
TCCCCAACGGGGAGGCCAACGTGAAGAAGGAAATTCACTACTGAGGAGGTTACGGCACAAAAATGTCATCCAGC  
TGGTGGATGTGTTATACAACGAAGAGAAGCAGAAAATATATATGGTGTATGGAGTACTGCGTGTGTGGCATGCAGG  
AAATGCTGGACAGCGTGCCGGAGAAGCGTTTCCAGTGTGCCAGGCCACCGGGTACTTCTGTTCAGCTGATTGACG  
GCCTGGAGTACCTGCATAGCCAGGGCATTGTGCACAAGGACATCAAGCCGGGGAACTGCTGCTCACCACCGGTG  
GCACCTCAAAAATCTCCGACCTGGGCGTGGCCGAGGCACTGCACCCGTTTCGCGGCGGACGACACCTGCCGGACCA  
GCCAGGGCTCCCCGGCTTTCCAGCCGCCGAGATTGCCAACGGCCTGGACACCTTCTCCGGCTTCAAGGTGGACA  
TCTGGTCCGGCTGGGGTCACCCCTTACAACATCACCACGGGTCTGTACCCCTTCGAAGGGGACAACATCTACAAGT  
TGTTTGAGAACATCGGGAAGGGGAGCTACGCCATCCCGGGCGACTGTGGCCCCCGCTCTCTGACCTGCTGAAAG  
GGATGCTTGAGTACGAACCGGCCAAGAGGTTCTCCATCCGGCAGATCCGGCAGCACAGCTGGTTCCGGAAGAAAC  
ATCCTCCGGCTGAAGCACCAGTGCCCATCCACCGAGCCAGACACCAAGGACCGGTGGCGCAGCATGACTGTGG  
TGCCGTACTTGGAGGACCTGCACGGCGCGGACGAGGACGAGGACCTCTTCGACATCGAGGATGACATCATCTACA  
CTCAGGACTTCACGGTGCCCGGACAGGTCCAGAAGAGGAGGCCAGTCACAATGGACAGCGCCGGGGCCCTCCCCA  
AGGCCGTGTGTATGAACGGCACAGAGGCGGCGCAGCTGAGCACCAAATCCAGGGCGGAGGGCCGGGGCCCCCAACC  
CTGCCCCGAAGGCCTGCTCCGCCAGCAGCAAGATCCGCCGGCTGTTCGGCCTGCAAGCAGCAGTGAGGCTGGCCGC  
CTGCAGCCCGTGTCCAGGAGCCCCGCCAGGTGCCCGCGCCAGGCCCTCAGTCTTCTGCGCGTTCCGCCCCGCCCT  
CCCGGAGAGGTGGCCGCCATGCTTCTGTGCCGACCACGCCCCAGGACCTCCGGAGCGCCCTGCAGGGCCGGGCAG  
GGGGACAGCAGGGACCGGGCGCAGCCCTCCCCCTCGGCCGCCCGGCAGTGCACGCGGCTTGTGACTTCGCAGC  
CCCCGGCGGAGCCTTCCCGGGCGGGCGTGGGAGGAGGAGGCGGCCTCCATGCACTTTATGTGGAGACTACTGGC  
CCCCCGCGTGCCCTCGTGCTCCGCAGGGCGCCAGCGCCGTCCGGCGGCCCCCGCCGAGACCAGCTGGCGGGTGT  
GGAGACCAGGCTCCTGACCCCGCCATGCATGCAGCGCCACCTGGAAGCCGCGCGGCCGCTTTGGTTTTTTGTTTG  
GTTGGTTCCATTTCTTTTTTTCTTTTTTTTTTAAGAAAAATAAAAGGTGGATTTG

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**FIGURE 5115**

GTCTCTCTCGCCCTCCAGGCCGCCCGCGCCGCGCCGGAGTCCGCTGTCCGCCAGCTACCCGCTTCCTGCCGCCCG  
CCGCTGCC**ATG**CTGCCCCGCCGCGCTGCTCCGCCGCCCGGGACTTGGCCGCCTCGTCCGCCACGCCCCGTGCCTATG  
CCGAGGCCGCCGCCGCCCGGCTGCCGCCTCTGGCCCCAACCCAGATGTCTTACCTTCGCCTCTCCCACGCAGG  
TGTTCTTCAACGGTGCCAACGTCCGGCAGGTGGACGTGCCACGCTGACCGGAGCCTTCGGCATCCTGGCGGCC  
ACGTGCCCCACGCTGCAGGTCCCTGCGGCCGGGGCTGGTCGTGGTGCATGCAGAGGACGGCACCACCTCCAAATACT  
TTGTGAGCAGCGGTTCCATCGCAGTGAACGCCGACTCTTCGGTGCAGTTGTTGGCCGAAGAGGCCGTGACGCTGG  
ACATGTTGGACCTGGGGGCAGCCAAGGCAAACCTTGGAGAAGGCCCAGGCGGAGCTGGTGGGGACAGCTGACGAGG  
CCACGCGGGCAGAGATCCAGATCCGAATCGAGGCCAACGAGGCCCTGGTGAAGGCCCTGGAG**TAG**CGGTGCGTA  
CCCGGTGTCCCGAGGCCCGGCCAGGGGCTGGGCAGGGATGCCAGGTGGGCCAGCCAGCTCCTGGGGTCCCGGCC  
ACCTGGGGAAGCCGCGCCTGCCAAGGAGGCCACCAGAGGGCAGTGCAGGCTTCTGCCTGGGCCCCAGGCCCTGCC  
TGTGTTGAAAGCTCTGGGGACTGGGCCAGGGAAGCTCCTCCTCAGCTTTGAGCTGTGGCTGCCACCCATGGGGCT  
CTCCTTCCGCCTCTCAAGATCCCCCAGCCTGACGGGCCGCTTACCATCCCCCTCTGCCCTGCAGAGCCAGCCGCC  
AAGGTTGACCTCAGCTTCGGAGCCACCTCTGGATGAACTGCCCCAGCCCCCGCCCCATTAAAGACCCGGAAGCC  
TGAAAAAAAAAAAAAAAAA

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**FIGURE 5116**

MLPAALLRRPGLGRLVRHARAYAEAAAAPAAASGPNQMSFTTFASPTQVFFNGANVRQVDVPTLTGAFGILAAHVP  
TLQVLRPGLVVVHAEDGTTSKYFVSSGSIAVNADSSVQLLAEAEVTLDMDLGAAKANLEKAQAELVGTADEATR  
AEIQIRIEANEALVKALE

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**FIGURE 5117**

[illegible]



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**FIGURE 5118**

MSLAIHSTTGTRYDLAVFPDETVEGLRKRLSQRKVPKERLALLHKDTRLSSGKLQEFVGDGSKLTLVPTVEAG  
LMSQASRPEQSVMQALESITETQPPAAPGPGRAGGGGFRKYRFILFKRPWHRQGPQSPERGGERPQVSDFLSGRS  
PLTLALRVGDHMMFVQLQLAAQHAPLQHRHVLAAAAAAAAAARGDPSIASPVSSPCRVPSSAARVPPVPTSPSPAS  
PSPITAGSFRSHAASTTCPEQMDCSPTASSSASPGASTTSTPGASPAPRSRKPGAVIESFVNHAPGVFSGTFSGT  
LHPNCQDSSGRPRRDIGTILQILNDLLSATRHYQGMPPSLAQLRCHAQCSPASPAPDLAPRTTSCEKLTAAPSAS  
LLQGQSQIRMCKPPGDRLRQTENRATRCKVERLQLLLQQKRLRRKARRDARGPYHWSPSRKAGRSDSSSSGGGGS  
PSEASGLGLDFEDSVWKPEVNPDIKSEFVVA

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**FIGURE 5119**

GAGGCTCGGGTCGTTGTGGTGCGCTGTCTTCCCGCTTGCCTCAGGGACCTGCCCGACTCAGTGGCCGCCATGGCA  
TCAGATGAAGGCAAACCTTTTGTGGAGGGCTGAGTTTGGACACCAATGAGCAGTCGCTGGAGCAGGTCTTCTCA  
AAGTACGGACAGATCTCTGAAGTGGTGGTTGTGAAAGACAGGGAGACCCAGAGATCTCGGGGATTTGGGTTTGT  
ACCTTTGAGAACATTGACGACGCTAAGGATGCCATGATGGCCATGAATGGGAAGTCTGTAGATGGACGGCAGATC  
CGAGTAGACCAGGCAGGCAAGTCGTCAGACAACCGATCCCGTGGGTACCGTGGTGGCTCTGCCGGGGGCCGGGGC  
TTCTTCCGTGGGGGCCGAGGACGGGGCCGTGGGTTCCTAGAGGAGGAGGGGACCGAGGCTATGGGGGGAACCGG  
TTCGAGTCCAGGAGTGGGGGCTACGGAGGCTCCAGAGACTACTATAGCAGCCGAGTCAGAGTGGTGGCTACAGT  
GACCGGAGCTCGGGCGGGTCTTACAGAGACAGTTATGACAGTTACGCTACACACAACGAGTAAAAACCCCTTCCTG  
CTCAAGATCGTCCTTCCAATGGCTGTGTGTTTAAAGATTGTGGGAGCTTCGCTGAACGTTAATGTGTAGTAAATG  
CACCTCCTTGTATTCCCACTTTTCGTAGTCATTTCCGTTCTGATCTTGTCAAACCCAGCCTGACCGCTTCTGACGC  
CGGGATGGCCTCGTTACTAGACTTTTCTTTTTAAGGAAGTGCTGTTTTTTTTTGGGGTTTTTCAAAACATTTGA  
AAAGCATTTTACTTTTTTTGACCACGAGCCATGAGTTTTCAAAAAAATCGGGGGTTGTGTGGGTTTTTGGTTTTTGT  
TTTAGTTTTTGGTTGCGTTGCCTTTTTTTTTTTAGTGGGGTTGGCCCCATGAAGTGGGTGCCCCACTCACTTCTC  
TGAGATCGAACGGACTGTGAATCCGCTCTTGTGCGAAGCTGAGCAAGCTGTGGCTTTTTTCCAACCTCCGTGTGA  
CGTTTCTGAGTGTAGTGTGGTAGGACCCCGCGGGTGTGGCAGCAACTGCCCTGGAGCCCCAGCCCCTGCGTCCA  
TCTGTGCTGTGCGCCCCACAGTAGACGTGCAGACGTCCCTGAGAGGTTCTTGAAGATGTTTATTTATATTGTCCT  
TTTTTACTGGAAGACGTACGCATACTCCATCGATGTTGTATTTGCAGTGGCTGAGGAATTCTTGTACGCAGTTTT  
CTTTGGCTTTACGAAGCCGATTAAAAGACCGTGTGAAATG

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**FIGURE 5120**

CCAAGATGGCGGTGCTGTCAGCTCCTGGCCTGCGCGGCTTCCGGATCCTTGGTCTGCGCTCCAGCGTGGGCCCGG  
CTGTGCAGGCACGAGGTGTCCATCAGAGCGTGGCCACCGATGGCCCAAGCAGCACCCAGCCTGCCCTGCCAAAGG  
CCAGAGCCGTGGCTCCCAAACCCAGCAGCCGGGGCGAGTATGTGGTGGCCAAGCTGGATGACCTCGTCAACTGGG  
CCCGCCGGAGTTCTCTGTGGCCCATGACCTTCGGCCTGGCCTGCTGCGCCGTGGAGATGATGCACATGGCAGCAC  
CCCGCTACGACATGGACCGCTTTGGCGTGGTCTTCCGCGCCAGCCCGCGCCAGTCCGACGTCATGATCGTGGCCG  
GCACACTCACCAACAAGATGGCCCCAGCGCTTCGCAAGGTCTACGACCAGATGCCGGAGCCGCGCTACGTGGTCT  
CCATGGGGAGCTGCGCCAACGGAGGAGGCTACTACCACTATTCTACTCGGTGGTGAGGGGCTGCGACCGCATCG  
TGCCCGTGGACATCTACATCCCAGGCTGCCCACCTACGGCCGAGGCCCTGCTCTACGGCATCCTGCAGCTGCAGA  
GGAAGATCAAGCGGGAGCGGAGGCTGCAGATCTGGTACCGCAGGTAGCGCCGCCGCCGCCGCCGCCGGAGCCTGT  
CGCCGTCTGTCCCCAGCCTGCTTGTGTCCCGTGAGGTTGTCAATAAACCTGCCCTCGGGCTGCCGCCAAAAAA  
AA

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**FIGURE 5121**

MAVLSAPGLRGFRILGLRSSVGPAVQARGVHQSVATDGPSSTQPALPKARAVAPKPSSRGEYVVAKLDDLNVNWAR  
RSSLWPMTFGLACCAVEMMHMAAPRYDMDRFGVVFRASPRQSDVMIVAGTLTNKMAPALRKVYDQMPEPRYVISM  
GSCANGGGYYHYSYSVVRGCDRIVPVDIYIPGCPPTAEALLYGILQLQRKIKRERRLQIWYRR

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**FIGURE 5122**

CCCCGGCCCACAAGCCCCTGCAGGGAGCGGGCCCCGGGCGGCGCGATCGAGGTGGGGTCGCCGTCCAGCCTGCA  
GC**ATG**AGCGCCCCCAGCGCGACCCCCATCTTCGCGCCCCGGCGAGAACTGCAGCCCCGCGTGGGGGGCGGCGCCCG  
CGGCCTACGACGCAGCGGACACGCACCTGCGCATCCTGGGCAAGCCGGTGATGGAGCGCTGGGAGACCCCTATA  
TGCACGCGCTGGCCGCCGCCCTCCTCCAAAGGGGGCCGGGTCTGGAGGTGGGCTTTGGCATGGCCATCGCAG  
CGTCAAAGGTGCAGGAGGCGCCCATTTGATGAGCATTGGATCATCGAGTGCAATGACGGCGTCTTCCAGCGGCTCC  
GGGACTGGGCCCCACGGCAGACACACAAGGTCATCCCTTGAAAGGCCTGTGGGAGGATGTGGCACCCACCCTGC  
CTGACGGTCACTTTGATGGGATCCTGTACGACACGTACCCACTCTCGGAGGAGACCTGGCACACACACCAGTTCA  
ACTTCATCAAGAACCACGCCTTTCGCCTGCTGAAGCCGGGGGGCGTCTCACCTACTGCAACCTCACCTCCTGGG  
GGGAGCTGATGAAGTCCAAGTACTCAGACATCACCATCATGTTTGAGGAGACGCAGGTGCCCCGCGCTGCTGGAGG  
CCGGCTTCCGGAGGGAGAACATCCGTACGGAGGTGATGGCGCTGGTCCCACGGGCCGACTGCCGCTACTACGCCT  
TCCCACAGATGATCACGCCCCCTGGTGACCAAAGGCT**TGA**CCCCCACC CGGCCCGGCCACACCCATGCCCTCCTC  
CGTGCCTTCCTGGCCGGGAGTCCAGGGTGTGCGACCAGCCCTGGGCTGATCCCAGCTGTGTGTCACCAGAAAGCTT  
TCCCGGCTTCTCTGTGAGGGGTCCCACCAGCCAGGGCTGATCCCAGCTGTGTGTCACCAGCAGCTTTCCCAGCT  
TCTCTGTGAGGGTCACTGCTGCCCACTGCAGGGTCCCTGAGGTGAAGTAAACGCCGGCGCTGGGCTTGGCCAGTC  
GGCAGTGAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5123**

MSAPSATPIFAPGENCSPA WGAAPAAYDAADTHLRILGKPVMERWETPYMHALAAAASSKGGRVLEVGF GMAIAA  
SKVQEAPIDEHWIIECNDGVFQRLRDWAPRQTHKVIPLKGLWEDVAPTLPDGHFDGILYDTYPLSEETWHTHQFN  
FIKNHAFRLKPGGVLTTCNLTSWGELMKS KYS DITIMFEETQVPALLEAGFRRENIRTEVMALVPPADCRY YAF  
PQMITPLVTKG

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**FIGURE 5124**

CCCCGGCCCCACAAGCCCCTGCAGGGAGCGGGCCCCGGGCGGCGCGATCGAGGTCGGGTCGCCGTCCAGCCTGCA  
GCATGAGCGCCCCCAGCGCGACCCCCATCTTCGCGCCCCGGCGAGAACTGCAGCCCCGCGTGGGGGGCGGCGCCCCG  
CGGCCTACGACGCAGCGGACACGCACCTGCGCATCCTGGGCAAGCCGGTGATGGAGCGCTGGGAGACCCCTATA  
TGCACGCGCTGGCCGCCGCCCTCCTCCAAAGGGGGCCGGGTCTGGAGGTGGGCTTTGGCATGGCCATCGCAG  
CGTCAAAGGTGCAGGAGGCGCCATTGATGAGCATTGGATCATCGAGTGCAATGACGGCGTCTTCCAGCGGCTCC  
GGGACTGGGCCCCACGGCAGACACACAAGGTATCCCCTTGAAAGGCCTGTGGGAGGATGTGGCACCCACCCTGC  
CTGACGGTCACTTTGATGGGATCCTGTACGACACGTACCCACTCTCGGAGGAGACCTGGCACACACACCAGTTCA  
ACTTCATCAAGAACCACGCCTTTCGCCTGCTGAAGCCGGGGGGCGTCTCACCTACTGCAACCTCACCTCCTGGG  
GGGAGCTGATGAAGTCCAAGTACTCAGACATCACCATCATGTTTGAGGTGCGCCACCTGAAGTTCCCCATGGGT  
CTCCAGGAAGTGACCTTGGATGGGGGTGGGAAGGGGGCTGCTGGAGCCACCTTGCTACCTGGGGAGGGTCCCTTCC  
TGACCCCCTGGGTGGGCTGGACTGTGCTGGTTCAITTAGAAATCAAAGTCCTTTGCCTGGCGCAGTGGCTGCCAG  
GAGCAGTGGCTCAGGTCTATAATCCCAGCACTGTGGAAGGCCGAGGTGGGCAGATTGCTTGAGCCTAGGAGTTCA  
AGACCAGCCTGGGCTACAGAGCAAGACCTCATCTTTCCTAAAAAAAAAATACAAAAA

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**FIGURE 5125**

MSAPSATPIFAPGENCSPA WGAAPAAYDAADTHLRILGKPVMERWETPYMHALAAAASSKGGRVLEVGFMAIAA  
SKVQEAPIDEHWIIECNDGVFQRLRDWAPRQTHKVIPLKGLWEDVAPTLPDGHFDGILYDTYPLSEETWHTHQFN  
FIKNHAFRLKPGGVLTYCNLT SWGELMKS KYS DITIMFEVRPPEVPHGSPGSDLGWGWEGAAGATLLPGEGPFL  
TPWVGWTVLVHLEIKVLCLAQWLPGAVAQVYNPSTVEGRGGQIA



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**FIGURE 5126**

CTGCGCAGGCGCGGACCAAAGCGATCTCTTCTGAGGATCCGGCAAGATGGCAGAAGTAGAGCAGAAGAAGAAGCG  
GACCTTCCGCAAGTTCACCTACCGCGGCGTGGACCTCGACCAGCTGCTGGACATGTCCTACGAGCAGCTGATGCA  
GCTGTACAGTGCGCGCCAGCGGCGGCGGCTGAACCGGGGCCTGCGGCGGAAGCAGCACTCCCTGCTGAAGCGCCT  
GCGCAAGGCCAAGAAGGAGGCGCCGCCCATGGAGAAGCCGGAAGTGGTGAAGACGCACCTGCGGGACATGATCAT  
CCTACCCGAGATGGTGGGCAGCATGGTGGGCGTCTACAACGGCAAGACCTTCAACCAGGTGGAGATCAAGCCCGA  
GATGATCGGCCACTACCTGGGCGAGTTCTCCATCACCTACAAGCCCGTAAAGCATGGCCGGCCCGGCATCGGGGC  
CACCCACTCCTCCGCTTCATCCCTCTCAAGTAATGGCTCAGCTAATAAAGGCGCACATGACTCC

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**FIGURE 5127**

MAEVEQKKKRTFRKFTYRGVDLDQLLDMSYEQLMQLYSARQRRRLNRGLRRKQHSLLKRLRKAKKEAPPMEKPEV  
VKTHLRDMIILPEMVGSMVG VYNGKTFNQVEIKPEMIGHYLGEFSITYKPVKHGRPGIGATHSSRFIPLK

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**FIGURE 5128**

AGCATGCAGTTCGGTCACCTGAGGGTGCTGGGGCCGTGGTTTGTAGCTTCATGGGCTCAGGTCCATGGCCGTTGAG  
TGTGGCGAAACTGAGGCACGCTGTGCGGGGGACGGGGGGCGCTCACAGAAGGTAGGGGGCCCTCCTGTGCCTTCAT  
CCAGGCACTGCCCCGGCCTTTCCACCCCTGTTGCTAAAGCAGGTGATGACAGAGGTGATTTGATCAGCCCAGACCC  
GTGCGGCACGTGGAGCCTTCGTCCGTGGGAGACCACACTGCCGAGGGGCAGGCCAGAGCCGAGGGGGCCCCTGACG  
CTTCTCTGAGTGACCCCTGAAGTCGGTGCTGCTTCAGCCCTGCTGCACTGGGCTTGCCATACGTGGGGGAGCAGGGA  
GCCATACGTAGTTTCTGCTGAATGTGGGAGTCACCAGGACGTCAATGCCACCTCTCACCTTCGCCACCCCTGCC  
TCCCTAAGTGTGTGCTCCAGGAGGTTGCACGGCCCTGGAGAGGTTTTCGGTGGCGGGCTTGTTCGTCTCTGGC  
TTCCAGAGACAGCAGGAATGAGAGCCAGGCCAGCTCAGTGAGTCCATCCCGGTGGGTGCCACGGCTTTTGCAGG  
AATGGAAGCCCCGCCCCAGGAGGGCCACTGCTGGCGAGGCTTGAGCTCTTTCTGTGACCCGATCCCCCTGGTCA  
CACGCTTTGCTAAGGCGGGTAGCCTAGAGCTGGAAGCCCTCCTGCCACCCAGCCACTGTGCCTCTCCCAGCTGA  
TGGACGAGGAAGCCTCCATTACTTGATTTTTGTGTTTTATTTTATTTTGTAGACAGGGTCTCATTCTGTACCCAGG  
CTGGAGTACCGTGGCAGCATCATAGCTTATTGCAGCCTCGGCCTCCCAGTCTCAAGCGATCCTCCTGCCTCTGCC  
TCCAGAGAAGTAGGGACCACAGATGCGTGCTACACGCCAGCTAATTTTTGTATTTGTATTTTTTGGTAGAGAT  
GGGGGTGTCACTATGTTGTCCAGGCTGGTCTCTAACTCTTGGGCTCAAGTGTTCTCCTCCCGCTCGGCCCTCCCAA  
GTGCTGGATTACAGGCGTGAGCCACCACCTGGCTGCATCCGTGATGTTAAGAAGACCCCGGTGGCAAGCTCA  
CTCGGGGACTGCAGGGAACCTTGCCCTTTGGGGGCAGTAGTGAGGGGTGCCAGGAGGATGGGGTGGTCAGCAGG  
CAGTGATGCTGCTGTGTCTCAGACCCCCAGTTCCTTCAGGATGATGGAGGATGCGGAGGCCCCGGGAG  
AGCAGCTCTACCAGCAAAGCCGGGCCTACGTGGCTGCCAACAGCGGTGCAGCAGGCGGGCAACGTGCTGAGGC  
AGAGGTGTGAGCTCCTGCAGCGAGCCGGCGAGGACCTGGAGCGGGAGGTGGCCCAGATGAAGCAGGCAGCATTAC  
CGGCAGCCGAGGCTGCCTCCTCAGGCTGACCTCTCGGGGCCTGCAGGCTTGGGCAGCGCACAAAGGTGGCCTGCAC  
CCAGGCTTTCCCTGGGGGTCCGTGCGCCCCAGACTGGCATTACGGGGTCCCAGCCACGTGGGTGTTGACACAG  
GCGCCCCCTCCTGATGCTGGGGCTGCGGTTTCATCCGTCTCTCATTATGCGGAGTTGGTGGGACCCACCCAGCTG  
GCTCCGTCTGCGTGACCTGAGGGCCCCACTGGGGTTCTGGAAGAGGATAGGGACATTATTGCTGTACTGTGATT  
CTGTCTGTCAGCTCACAGTGGCCGTGCTCTGCAGTGGGGCCCCCTGGGAGCAGGTGCCACCTCCTTCTCTCCCGG  
GCAGGCACTGCGCTGTCCACTTCTGAGTCCAGGTGTTGGGATCGAGGTGTTAACTGTGATTCCATCCAGCGAGTG  
CCCACCAATGTGAGAGCAGCCCCGAGGGCCAGCCTGAGCCCCCTGACCCCACTTCTTCTGGGCCCCGGGCTCCTC  
CCACAAGCCACGTTGATCTTCACAACGACCCCTGGGCCGTGGGGTCACCCAAGAGAAGCAGCCCTGAGACCCAGC  
CAGGCTGGGCCTAGCTCCACGGCACGGGTGTCTCCAGCCACTGCCCTTGCTGGAGGACCGCTGTGAGTCACTGG  
CCAGGAGCCCAGGGTGTCTGAGTCTCATAGCCACCCCTGCCAGCTGCAGCAGGTCTTGGGCTGCTTCCCTGCGG  
GTTCTGGCCCTGGGGGAGGGGGCGTTAGTGCGGCGGAGGGTCTTGCCAAAGGCTTTTCATCTAAATAGCAACTT  
GAGTGGAAACCTGGGCAAGGCGGCCAGAGGCTGGGCCCTGCACATAAAGCTTTCGTGTGTGTC

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**FIGURE 5129**

MGSKAKKRVLLPTRPAPTVEQILEDVRGAPAEDEVFTILAPEDPPVPFRMMEDAEAPGEQLYQQSRAYVAANQR  
LQQAGNVLRQRCELLQRAGEDLEREVAQMKQAALPAEEAASSG

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**FIGURE 5130**

CGCGGGGAAACTGAGGCAGAGAGATGGGCTCCAAGGCAAAGAAGCGCGTGCTGCTGCCCACCCGCCAGCGCCCC  
CCACGGTGGAGCAGATCCTGGAGGATGTGCGGGGTGCGCCGGCAGAGGATCCAGTGTTACCATCCTGGCCCCGG  
AAGGTAGGGGGAGCCCGGTCCCGGGGAAAAGCGGACCTGAGACCCCGGCAGCAAGGGGACGGGAGAGAAGCACAC  
CCCTAACTCCTGACCCACGCCCTGGGAACCCCGCAACATGGGCACGGTCCGTATCCTCTCCGAGTCTCCCTCT  
ACTCCTCCGTAGAGTGGGACCGATTTTCAGAGGGTTCTTCTGACAGGGGTGGAGGCCGGGCGCTGTGGTTCAGGC  
CTGTAAGCCCAGCACTTTCGGAGGATGAGGCGGGAGGATCGCTTGAGCCCAGGAGTTCGAGACCAGCCTGGCCAA  
CATGGTGAAACCCCGTCTCTGCTAAAAATGAAAAACAAAAC



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**FIGURE 5132A**

GCCTGAGGTGCCCCGCCCTGGCCCCAGGAGAAATGAACCCAGCCGAGAGGATGGCGCCTGTGGGCACAGACAAGGAG  
CTCAGTGACCTCCTGGACTTCAGCATGATGTTCCCGCTGCCTGTACCAACGGGAAGGGCCGCGCCCTCCCTG  
GCGGGGCGCAGTTCGGAGGTTTCAAGTCTTGAGGACCGGCCAGCTCAGGCTCCTGGGGCAGCGGCGACCAGAGC  
AGCTCCTCCTTTGACCCCAGCCGGACCTTCAGCGAGGGCACCCACTTCACTGAGTCGCACAGCAGCCTCTCTTCA  
TCCACATTCTTGGGACCGGGACTCGGAGGCAAGAGCGGTGAGCGGGGCGCCTATGCCTCCTTCGGGAGAGACGCA  
GGCGTGGGCGGCCTGACTCAGGCTGGCTTCTGTTCAGGCGAGCTGGCCCTCAACAGCCCCGGGCCCCCTGTCCCCCT  
TCGGGCATGAAGGGGACCTCCCAGTACTACCCCTCCTACTCCGGCAGCTCCCGGGCGGAGAGCGGCAGACGGCAGC  
CTAGACACGCAGCCCCAAGAAGGTCCGGAAGGTCCCGCCGGGTCTTCCATCCTCGGTGTACCCACCCAGCTCAGGT  
GAGGACTACGGCAGGGATGCCACCGCCTACCCGTCCGCCAAGACCCCCAGCAGCACCTATCCCGCCCCCTTCTAC  
GTGGCAGATGGCAGCCTGCACCCCTCAGCCGAGCTCTGGAGTCCCCGGGCCAGGCGGGCTTCGGGCCCCATGCTG  
GGTGGGGGCTCATCCCCGTGCCCTCCCGCCGGTAGCGGCCGGTGGGCAGCAGTGGAAGCAGCAGCACGTTT  
GGTGGCCTGCACCAGCACGAGCGTATGGGCTACAGCTGCATGGAGCAGAGGTGAACGGTGGGCTCCCATCTGCA  
TCCTCCTTCTCCTCAGCCCCGAGCCACGTACGGCGGCGTCTCCAGCCACACGCCGCTGTTCAGCGGGGCGGAC  
AGCCTCCTGGGCTCCCGAGGGACACAGCTGGCAGCTCCGGGGATGCCCTCGGCAAAGCACTGGCCTCGATCTAC  
TCCCCGATCACTCAAGCAATAACTTCTCGTCCAGCCCTTCTACCCCGTGGGCTCCCCCAGGGCCTGGCAGGA  
ACGTACAGTGGCCTCGAGCAGGAGCCCCGGTGCCTTATCGCCAGCTACGACGGGGGTCTCCACGGCCTGCAG  
AGTAAGATAGAAGACCACCTGGACGAGGCCATCCAGTGCTCCGCAGCCACGCCGTGGGCACAGCCGGCGACATG  
CACACGCTGCTGCCTGGCCACGGGGCGCTGGCCTCAGGTTTACCGGCCCATGTCACTGGGCGGGCGGCACGCA  
GGCCTGGTTGGAGGCAGCCACCCGAGGACGGCCTCGCAGGCAGCACCAGCCTCATGCACAACCACGGGCCCTC  
CCCAGCCAGCCAGGCACCTCCCTGACCTGTCTCGGCCTCCCGACTCCTACAGTGGGCTAGGGCGAGCAGGTGCC  
ACGGCGGCCCGCCAGCGAGATCAAGCGGGAGGAGAAGGAGGACGAGGAGAACACGTACGCGGCTGACCACTCGGAG  
GAGGAGAAGAAGGAGCTGAAGGCCCCCGGGCCCGGACCAGCCAGACGAGGACGAGGACGACCTTCTCCCCCA  
GAGCAGAAGGCCGAGCGGGAGAAGGAGCGCCGGTGGCCAATAACGCCCGGGAGCGGCTGCGGGTCCGTGACATC  
AACGAGGCCTTTAAGGAGCTGGGGCGCATGTGCCAACTGCACCTCAACAGCGAGAAGCCCCAGACCAAACCTGCTC  
ATCCTGCACCAGGCTGTCTCGGTCTCCTGAACTTGGAGCAGCAAGTGCAGAGCGGAACCTGAATCCCAAAGCA  
GCCTGTTTGAAACGGCGAGAAGAGGAAAAGGTGTGAGGTGTGGTTGGAGACCCCGAGATGGTGCTTTTACGCTCCC  
CAGCCAGGCTGAGCGAAGCCCAACCCCGCCGGGCACATGTGAAGGATATGCCTCCGTGGGACGAGCCACCCG  
CTTTACGCCCTGTGCTCTGGCCCCAGAACGGCCACTCGAGACCCCGGGCTTATCCACATCCACACCTCACACAC  
CTGTTGTGACATCGAGCCAACACCAACCTGACAAGGTTTCGGAGTGATGGGGGCGGCCAAGGTGACACTGGGTCC  
AGGAGCTCCCTGGGGCCCTGGCCTACCACTCACTGGCCTCGCTCCCCCTGTCCCCGAATCTCAGCCACCGTGTCA  
CTCTGTGACCTGTCCCATGGATCCTGAAACTGCATCTTGGCCCTGTTGCCTGGGCTGACAGGAGCATTTTTTTTT  
TTTCCAGTAAACAAAACCTGAAAGCAAGCAACAAAACATACACTTTGTGAGAGAAGAAAAAATGCCTTAACTAT  
AAAAAGCGGAGAAATGGAACATATCACTCAAGGGGATGCTGTGGAACCTGGCTTATTCTTCTAAAGCCACCA  
GCAAATTGTGCCTAAGCGAAATATTTTTTTTAAAGGAAAATAAAAACATTAGTTACAAGATTTTTTTTTTCTTAAT  
GTAGATGAAAATTAGCAAGGATGCTGCCTTTGGTCTCTGGTTTTTTTTTAAGCTTTTTTTTGCATATGTTTTGTAAGC  
AACAAATTTTTTTGTATAAAAGTCCCGTGTCTCTCGCTATTTCTGCTGCTGTTTCTAGACTGAGCATTGCAATTC  
TTGATCAACCAGATGATTAAACGTTGTATTAAAAAGACCCCGTGTAAACCTGAGCCCCCGTCCCCCCCCCCCC  
CCGGAAGCCACTGCACACAGACAGAACGGGGACAGGCGGCGGGTCTTTTGTTTTTTTTGTATGTTGGGGGTTCTCTT  
GGTTTTGTATGTGGAAGTGATGCGTGGGCGTTCCCTGATGAAGGCACCTTGGGGCTTCCCTGCCGCATCCTCT  
CCCCTCAGGAAGGGGACTGACCTGGGCTTGGGGGAAGGGACGTCAGCAAGGTGGCTCTGACCCTCCAGGTGACT  
CTGCCAAGCAGCTGTGGCCCCAGGGCTACCCTACACAACGCCCTCCCCAGGCCCCCTAAGCTGCTCTCCCTTG  
GAACCTGCACAGCTCTCTGAAATGGGGCATTTTGTGGGACCAGTGACCCCTGGCATGGGGACCACACCTGGAG  
CCCGGTGCTGGGGACCTCCTGGACACCCTGTCTTCACTCCTTTGCCCCAGGGACCCAGGCTCATGCTCTGAACT  
CTGGCTGAGAGGATGCTGCTCAGGAGCCAGCACAGGACACCCCCACCCACCCACCATGTCCCCATTACACCA  
GAGGGCCATCGTGACGTAGACAGGATGCCAGGGGCTGGCCAGCCTCCCCAATGCTGGGGAGCATCCCTGGGCC  
TGGGGCCACACCTGCTGCCCTCCCTCTGTGTGGTCCAAGGGCAAGAGTGGCTGGAGCCGGGGGACTGTGCTGGTC  
TGAGCCCCACGAAGGCCTTGGGCTGTGCGTCCGACCCTGCTGCAGAACAGCAGGGTGTCCCTCGGGCCCATCT  
GTGTCCCATGTCCAGCACCCAGGCCTCTCTCAGGTCTCCTTTCTGGTCTTTTGCCATGAGGGTAACAGCTC

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**FIGURE 5132B**

TTCCCAGCTGGCTGGGGACTGTCTTGGGTTTAAAACTGCAAGTCTCCTACCCTGGGATCCCATCCAGTTCCACAC  
GAACTAGGGCAGTGGTCACTGTGGCACCCAGGTGTGGGCCTGGCTAGCTGGGGGCCTTCATGTGCCCTTCATGCC  
CCTCCCTGCATTGAGGCCTTGTGGACCCCTGGGCTGGCTGTGTTTCATCCCCGCTGCAGGTCGGGCGTCTCCCCC  
GTGCCACTCCTGAGACTCCCACCGTTACCCCCAGGAGATCCTGGACTGCCGACTCCCCCTCCCAGACTGGCTTG  
GGAGCCTGGGCCCCATGGTAGATGCAAGGGAAACCTCAAGGCCAGCTCAATGCCCTGGTATCTGCCCCAGTCCAG  
GCCAGGCGGAGGGGAGGGGCTGTCCGGCTGCCTCTCCCTTCTCGGTGGCTTCCCCTACGCCCTGGGAGTTTGATC  
TCTTAAGGGAACCTTGCCTCTCCCTCTTGTTTTGCTCCTGGCCCTGCCCCCTAGGTCTGGGTGGGCAGTGGCCCCAT  
AGCCTCTGGAACCTGTGCGTTCTGCATAGAATTCAAACGAGATTACCCAGCGGAGGAGGAAGAAACAGCAGTTC  
CTGGGAACCACAATTATGGGGGGTGGGGGGTGTGATCTGAGTGCCTCAAGATGGTTTTCAAAAAAATTTTTTAA  
AGAAAATAATTGTATACGTGTCAACACAGCTGGCTGGATGATTGGGACTTTAAAACGACCCTCTTTCAGGTGGAT  
TCAGAGACCTGTCCTGTATATAACAGCACTGTAGCAATAAACGTGACATTTTATAACG



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**FIGURE 5133**

MNQPQRMAPVGTDKELSDLLDFSMFPLPVTNGKGRPASLAGAQFGGSGLEDRPSSGSWGSQDQSSSSFDPSRTF  
SEGTHTESHSSLSSTFLGPGGLGGKSGERGAYASFGRDAGVGGLTQAGFLSGELALNSPGFLSPSGMKGTSQYY  
PSYSGSSRRRAADGSLDTQPKKVRKVPPGLPSSVYPPSSGEDYGRDATAYPSAKTPSSSTYPAPFFYVADGSLHPSA  
ELWSPPGQAGFGPMLGGGSSPLPLPPGSGPVGSSGSSSTFGGLHQHERMGYQLHGAEVNGGLPSASSFSSAPGAT  
YGGVSSHTPPVSGADSLGSRGTTAGSSGDALGKALASIYSPDHSSNNFSSSPSTPVGSPQGLAGTSQWPRAGAP  
GALSPSYDGGLHGLQSKIEDHLDEAIHVLRSHAVGTAGDMHTLLPGHGALASGFTGPMSLGGRHAGLVGGSHPED  
GLAGSTSLMHNHAALPSQPGLPDLRPPDSYSGLGRAGATAAAEIKREEKEDEENTSAADHSEEEKKELKAPR  
ARTSPDEDEDLLPPEQKAEREKERRVANNARERLRVRDINEAFKELGRMCQLHLNSEKPTKLLILHQAVSVIL  
NLEQQVRERNLNPKAACLKRREEEKVSGVVGDPQMVL SAPHPGLSEAHNPAGHM

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**FIGURE 5134**

CAGCAACTCCGTGGCCAAGCTGAGGAGGCCAGGGCCCGCTCCTGCTTCTCCACGGGTGTGCTCTGTGGCCCCCG  
ATGGAAGGGGAAGGATCCAAGCAGGCCCTCCCTGCCCAGGGCAGAAGATTCTGGAGTCCTGGGCGTTGCCCTGTG  
AGTGTCTGAGAGATAAGGGCCCCCGCCCGCCCCGGGACCAAGGTCCTCGTCCCGTCCCTTGCTGCGCCGG  
GAACTCCTGCCCCACGCAGGCTTCTGGTCTCCACACTGGGCTTGTTCTGGGTGATGAGATTCGGCTCCACCCTC  
ACGGGCTGCCAGCCTCCTGCCCCGATGGGTGAGCCTCTGCTGCTGCTTCAGCAAAGGGCGGCCCCACTTCCCACAC  
TGGCAGGTGGGGACAGGGAGACCCTGGGCCTCCCCAGAGCTCATGGGTTAGCTTCCACACCCTCATGCTGTCATG  
AGCCTTTCTCACAGGGTCAGAAGAGTCTGCATCTGACACAGAGACCCAGTCCACATAGTCAGGGCTGGGCCAGA  
GGGAGGGACTTGGGGCTGATGGGGAGGAGGCTCGGCGTGAGAGTGAGGTCTTTGCCCAAGGAGGGTATGAAAGCT  
GGGGCTTTAGTGGGTGGGTAGGAGTTGGCCAGCAGAGAGCCGACGGAAGAGTTAATTTAAGTTTATGGACCTGTA  
AGTGCTCCGAGTCCCAGGGTGTCTGGGTGTTAGCTGCTGACTGGTGTCTCATGAGTCGGGCTGGGTGAGGCTGG  
GTTAGGAAGGGTTCCACAAGCCCCCGGGTCCACTGAGGTTTGCCCCCTGAGATGATGAACCGAAGCTTTTAGAGC  
TGGGCAGGCGTGAGGGTGACCCATAACTCTCTCTGCTCCTGCCTGCAGGTCTTGAGGACCGGCCAGCTCAGGCTC  
CTGGGGCAGCGGCGACCAGAGCAGCTCCTCCTTGACCCAGCCGGGTAGGAGTCCCCGTGAGGCCTGAGACCCT  
GAGTTTCCTGTCCCCAGAGTTGGGGGCGAGGGGTGTGGGAAACTGAGGCTGAGAGAAGGGGCCAGCCTTCCAGG  
GGTTTGACTGGGGGACATGGGTTTGAGTCTGCTCTCCAGCTGTAATGCGGGGTGGAGGGGGGCTGTGAAG  
CCCCAGCACCTCTCATCCCCACCCCATCTCCCCTAGACCTTCAGCGAGGGCACCCACTTCACTGAGTCGCACAGC  
AGCCTCTCTTCATCCACATTCTGAGGACCGGGACTCGGAGGTGAGTGCCTGGCCTGGTGCCTGCTGTG  
CACAGATGTGCAGACGTGGGCCTTGGCATGGTCAGTGCACGCACAGCGCCAGGCAAGTCCCAGCGTTCACCCAG  
AGGGTGTGGACAGCCGAAGCCTCTGCCCCGCTGAGCGTAGAGGAGGAGGCGGCTTCCAGACCCCACTTCC  
TCCCTGGGATTTCTGCAGGGCTCCTCCTGCTTCCCGGGGAGGGGTGAGCCGGGCTGGCCTGTGCCCGCTGGGAAG  
GAGGCGTAGGAGTTCTGGAGACTCGGGAGGGCGGCCAGAGTGTGCGGTGGTCAGAGCCCATGCCCTTCCGCAGAC  
CGCCCCCGCCCTCTTTCCCTGGGGGGCCCTCCTGTTAACCGAGAGAATCGTGAAGTCAAGGTTGGGCTCGGTGGC  
TCACGCTGTAAATACCAGCACTTTGGGAGAGCGAGGTGGGTGGATCACCTGAGGTGAGGAGTTTGAAGCAGCCT  
GGCCAACATGGTGAAACCCCGCTTCTACCAAAAACAAAAAATTAGCCGGTCATGGTGTGGATGCTTATAGTGC  
CAACTACTCAGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAGGAGGTGGAGGCTGCAGTGAGCCGAGATCACGC  
CATTGCCCTCCAGCCTGGGTGATGGAGCGAGATTCCATCTT



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**FIGURE 5135B**

ACAAGCGGTCCCTGCGGAACCTCATGGCCGACTACCTCAGACAGATCATCCAAGGACAATGTGGATGGGCACAGCT  
CCAGCGAGGACGCCGGCGCCTGCATGCACCTGGTGATCTGGAAGGTTTCGAGAAGACGCCAAGACCAAGCGATGAC  
GCCTGCCCCGCTCCACCCGCTCTCCTGCCGTCCCGCTGGTCCTTAGCCCCATGCCTCTTCCAAAACAGTGCAA  
TAAATCTCCGGTAACCCGTCCACCTGGCCGAGGCAGCCAGAGCAGCGGGATGAGCTGGCGGCCAGAGAACGCCC  
AGCCCAGCCCACCCCGCTCACGTCTGCCGCACCCCTCCGCCGGTCCCCACCCTCTGCCCCCAGCCCTCTGGC  
GTCTCTAGAAACTGCTGCTGATGGAGACCAGGACAGAGCCCGCCCCACCCGGCCCGCAGCCCTCCTGCCCCCTC  
CTGCCAGGCCCTCCCTCCCGGGTGGTGGCCGGCACCTCTGCTCCTCACGTGGGTGCGGGGCGGGCTTGTCCCAG  
GTTTGTGTTGAGACAGTCTTTTTTTATTTTGTATTGTTATTTTTATTATTTTAAATTTAAACCTGATGACTTGCAC  
AGCATCTTTCCACCGGGAAGAGCGGGCCTGCTGCCTTCCCTCCTGCGGGGTGGGGGTGGGACAGACCCCAAGTGG  
GGGCCAGGGCCACACTCAGCGCAGTGTGGGCTGGACCCGCCTCTGTGCTCCAGGGGCTGGCCGGTCTTCGGGGGC  
GCCGGCTTCCACCACTCGCCGCCCCACCCCTGCACTCCGTGACCTCTGAGAACCCAGCTGGCCCCCTCGTTAGCCC  
CAGGGTCTGCCGTCTAGAGGGAGCCACCGGCCTCCGGACACTGTCTTCCCGCTAGAGCCCCGTCTCCTCTGCG  
GGGCTCTCCGGACCCCTTCCCCCTCACCTCCAGGCAGGGACAGAATAAATGTTTGTATGGATTTT

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**FIGURE 5136**

MLRSTGFFRAIDCPYWSGAPGGPCRRPYCHFRHRGARGSGAPGDGGEAPPAAGLGYDPYNPELPKPPAQRENGTL  
GLGEEPRPDVLELELVNQAIEAVRSEVELEQRRYRELLETTREHRSAPALAPRGPNASPTVGPDEDAFLAFD  
YSPGSHGLLSPDAGYQPTPLAAPAEFGSKYSLASLDRGQGRGGGGGGGALEYVPKAVSQPRRHSRPVPSGKYVVDN  
SRPPTDLEYDPLSNYSARHLSRASSRDERAAKRPRGSRGSEPYTPAPKKLCDPFGSCDARFSDSEDEAATVPGNE  
PTTASTPKARADPEIKATGQPPSKEGLEAEGGGLRETKETAVQCVDLQPPPAKPASPAQVQSSQDGGCPKEGK  
PKKKKTGAPPAPSCKDGAQGKDKTKDKGRGRPVVEKPRADKKGPQASSPRRKAERPEGTKKKPSSATPVATSGKGR  
PDRPARRPSTSGDSRPAAGRGPRLQLPDRKSTKAPSGKLVERKARSLDEGASQDAPKLKKRALSHADLFGDE  
SEDEAAGPGVPVWPSALPSLSSDSDSDSDSSLGFPQAQGPCKRLKASPPSPAPSSSSSSSSSTSSAGADVDYS  
ALEKEVDFDSDPMEECLRIFNESTSVKTEDRGLARQPPKEEKSEEKGLSGLTTLFPQGKRRISHLSKQGQVEVEP  
PRRGPAVPPARPPPTAQEV CYLRAQQAQRASASLLQAPARLAEKSPSVHISAPGEKRRIAHIPNRLAAAPTGA KR  
TLAASGSQSSNGPEPGGQQLKTRTLSGMASKTTTTIIPKRIAHSPSLQSLKKPIIPKEFGGKVPTVIRQRYLNL F  
IEECLKFCTSNQEAIEKALNEEKVAYDRSPSKNIYLNVA VNTLKKLRGLAPSAVPGLSKTSGRRVVSHEVVLGGR  
LAAKTSFSLSRPSSPRVEDLKGAALYSRLREYLLTQDQLKENGYPFFHPERPGGAIIFTAEERPKDSSCRTCCR  
CGTEYLVSSSGRCIRDEECYHHWGRLRRNRVAGGWETQYMCCSAAAGSVGCQVAKQHVQDGRKERLEGFVKTFEK  
ELSGDTHPGIYALDCEMS YTTYGLELTRVTVVD TDVHVVDYTFVKPDNEIVDYNTRFSGVTEADLADTSVTLRDV  
QAVLLSMFSADTILIGHSLESDLLALKVIHSTVVDTSVLFPHRLGLPYKRSLRNLMDYLRQIIQDNVDGHSSE  
DAGACMHLVIWKVREDAKTKR

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**FIGURE 5137**

TGCAACGGGGCCCCCCCCAGGGCAGCTAGGAGGTCCTCCCCTCTCCTCTCCACCACCCCCTGCTGCCCCCCTCCCG  
GGGTGGGGTTTGGGGGGGTGGAGTGGACTTCTGGGAGCCGGCCCGGGGAAAGCACCCCCTGCCCCATCCCTGCAG  
ATTGGGATGAAGTGTTTACAGACAGCCATAGAGGAGTCGGGGGTTGACACGGCCCCCTGCCTCTCCCCACCCCACCCC  
CACCCACCGAAAGCCATGGGAGTAGTTTACAGGAAATGGGGGTGCAGCCCAGCCACCCCCCATTCGGGTACTCAA  
TCTCAGGTGTCCACAAGTTCTGCGCACGGTAGGGGCTGCCTGGCCCCCAGACCTCGGGGGTAGAGCCAGGAGTG  
GGGCAGCGTTAGGATGCCCCGAGGGGCTCCAGGTGTTGCTTCTGAGACCTGGGATGGGGAGGGAGGGGACCTCTG  
GGTTCTTCCAAAGAACATTTGACTCAGTGGGGTCGGGAGGGAATCCTGGCTTATTTATTTTCTCTGTCTCGGG  
TGTGGGGGCCCTAGCTCGCCCTCTCTGGGTGGGTGGGTGAGAGAGGCTGCAGGGGAGGCTGGCACCGGGCTTGGG  
CCTCCAGTCCCTGCCTTGCTGACTTTGGCCGTTGCGGTATCACGTGACAATCAACTCTCCCTTAACGACGACTGC  
GGCTGTTGGGCTGCGCTGCCCTCCCTGGCCTGCAGGTGGGGCCGTGGAGCCCATGCCCCCGGGGTTGCAGGCTC  
TTCCGGGCCTGGGCTGCAGCCTGGCCCCGGCCCTGCTTCCCTGGCCTCCCTCCTTCTCCTGGGTGCTTGGAAGAG  
GTGGGTCTTGGCCCCGTGGTTGAGGTCTTGCCCTCGTGGACTGGAAGCAGAGGGCTGGCTGTGCAGCCTCCTGGGGT  
AGCTCGTTTTTTTTTGCACCGGGTAGAATATTTTTTTCAGGCACGGATTCTTTTTTTCTGGGCCCCCATGGGTGGT  
CCGGCATCCTCAGGGGGTGTGAGTGTGTGTGGGGGCTCTCTGAGCTGAACCTTGGGTGGGGTGGGACTTGTTCCT  
CGGGGGCCACCTTTGTGTCTTGTGCAGCGGTCTCTCTGTGTGGCCTGGGTTGCATTTCTCTTGGGGGGGGTAT  
TGAGGACCCCCAGCCTGGAATGAGAAGGGTCCCCGGTTCCATGTGCAGACCAGAAAGGTGGATCCCCCACTGTT  
GGCTGCAGGAGTTTTTGGTACCCCCCTTTTGTTCAGAACCGTCTGCTCTCGCTTGGGGACAGGGGGGCTTTG  
GATGGCACTGGTGTGCACCTGGACCCAGCCCCGGCCTGGCAGGATCCAGGGATGGGTGCCTGGGATCCTGGGGG  
AGGGAGGCAGGGGACGCCCTTCTGGAGCTGGGCTCGGAGGGTCTGCCCCATCCAGCCCTCGGCTCTCTGTGTTT  
TCTGTCCCTAGCCTCAAACCTCTTCTGGCAGCGCTAGTGAGATGCCTTAGTCTGTGGGGGTGGGTGGGGGACTG  
GGGCCCCGTTTTCTTTGTGAGTCTTGGTTGGCCCCAGCCCTGGCAGGGGCTGTCTGGAGCAGGGGTAGGTAGG  
GCTGTGGGTTCAGAACTCTATAACTGGGCCCCCTCTCCAGTGTCCAGGGGCTTGGAGAGACCTGCGCCACCCCCT  
CCTCTCTCCAGGAGTCGCTGATCACTGGGACCTGGTTCCAGCCGTTTGCAGGGGAGGCGGCTCCGAGAGGCGTG  
TGCTTTCCGTGGGTGGCGCCCCCTCCCCCGCCCTGCCTGGCCTCATCCTTGTATTTAATTAATTAACAAGCCCCCT  
TTTTAAACCT

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**FIGURE 5138**

GCGGAGGGACCGACGGACGCACGGGCGGGCGGCCGGGAGCCATGGAGCGCGGCCCTGGGGCCCCGGGGCGCGGGC  
CGGGGTGGGCTTCCCACGGCACGACATGGAGACCTGTGGTTGCGAGGCTCCCTGGGGCTCGGCTTGGACCGCGAT  
GGGGCTGGGCCCTGGCCTCCTAACGGGGCTGCTGTCTGGGGCGGTAGCTGGGGGGGCGCTCTCCCCCTGCCCGC  
GACTCGGAGCACCCCCACCCCTCCCTGCCGGGCCAGGCCGGGCGGCGTTGTTGGCGGGGGCCCCGGTGGAGGCC  
CGGCTGGGCGGCGCCCGCCATGAATGGGCTGTCGCTGAGTGAGCTCTGCTGCCTCTTCTGCTGCCCGCCCTGCC  
CCGGCCGCATCGCTGCCAAGCTCGCCTTCCTGCCGCCGGAGGCCACCTACTCCCTGGTGCCTGAGCCCGAGCCGG  
GGCCTGGTGGGGCCGGGGCCGCCCCCTTGGGGACCTGAGAGCCTCCTCGGGCGCACCCGGGCGCTGGAAGCTGC  
ACCTGACGGAGCGTGCCGACTTCCAGTACAGCCAGCGCGAGCTGGACACCATCGAGGTCTTCCCCACCAAGAGCG  
CCCGCGGCAACCGCGTCTCCTGCATGTATGTTGCTGCGTGCCTGGTGCCAGACAAGGACACCAGGCTCAGGGAG  
GCCATCCCCAGCTGGCATGGGTGGGCAGGCTGGGCGACTCCAACAACCCAGCGCCTGGTGGTTGCCTGCTGGGCG  
AGAGCTGGGGCACAGGGGCTGCCCTGGCCTGCGGGTACATCCACCTTCTCGCCAGGTACACGGTCTCTTCTCGC  
ACGGCAATGCCGTGGACCTGGGCCAGATGAGCAGCTTCTACATTGGCCTGGGCTCCCGCCTCCACTGCAACATCT  
TCTCCTACGACTACTCCGGCTACGGTGCCAGCTCGGGCAGGCCTTCCGAGAGGAACCTCTATGCCGACATCGACG  
CCGCTGGCAGGCCCTGCGCACCAGGTACGGCATCAGCCCGGACAGCATCATCCTGTACGGGCAGAGCATCGGCA  
CGGTGCCCCACCGTGGACCTGGCCTCGCGCTACGAGTGTGCCGCGGTGGTGCTGCACTCGCCGCTCACCTCGGGCA  
TGCGCGTGCCTTCCCCGACACCAAGAAGACCTACTGCTTCGACGCCTTCCCTAACATCGAGAAGGTGTCCAAGA  
TCAGTCTCCCGTGCTCATCATCCACGGCACGGAGGACGAGGTGATCGACTTCTCGCACGGGCTGGCGCTCTACG  
AGCGCTGCCCCAAGGCGGTGGAGCCGCTGTGGGTGGAGGGCGCCGGGCACAACGACATCGAGCTCTACAGCCAGT  
ACCTGGAGCGCCTGCGTCGCTTCATCTCCCAGGAGCTGCCAGCCAGCGCGCCTAGCGGGCGCCCCAACCGGCCG  
GACCTCAGCAATAAGGCGGCCCCCGGACCTCACCCCGCGCCGGCCCCCACCCAGGGGCTGCATGTGGACCCCCG  
GGCGGCCCCAGGGGACCCCGCCCCGACCCAGGGGCTGTGGACGATGTACAGGCAACAGAGCTACGCTACTCCTTTCC  
TTTTGGAAGCAAGAAGAAAATACGTGAAAACGGAAATTAAAGATTTAAATTTTAAAAAAAAAAAAAAAAA

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**FIGURE 5139**

MNGLSLSELCCLFCCPPCPGRIA AKLAFLPPEATYSLVPEPEPGPGGAGAAPLGTLRASSGAPGRWKLHLTERAD  
FQYSQRELDTIEVFPTKSARGNRVSCMYVRCVPGARQGHQAQGHPQLAWVGR LGDSNNPAPGGCLLGESWGTGA  
ALACGYIHLLARYTVLF SHGNAVDLGQMSSFYIGLSRLHCNIFSYDYSYGASSGRP SERNLYADIDA AWQALR  
TRYGISPD SIILYGQSIGTVPTVDLASRYECAAVVLHSPLTSGMRVAFPD TKKTYCFDAFPNIEKVSKITSPVLI  
IHGTEDEVIDF SHGLALYERCPKAVEPLWVEGAGHNDIELYSQYLERLRRFISQELPSQRA



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**FIGURE 5140**

ATGAATGGGCTGTGCTGAGTGAGCTCTGCTGCCTCTTCTGCTGCCCGCCCTGCCCCGGCCGCATCGCTGCCAAG  
CTCGCCTTCCTGCCGCCGGAGGCCACCTACTCCCTGGTGCCTGAGCCCGAGCCGGGGCCTGGTGGGGCCGGGGCC  
GCCCCCTTGGGGACCTGAGAGCCTCCTCGGGCGCACCCGGGCGCTGGAAGCTGCACCTGACGGAGCGTGCCGAC  
TTCCAGTACAGCCAGCGCGAGCTGGACACCATCGAGGTCTTCCCCACCAAGAGCGCCCGCGGCAACCGCGTCTCC  
TGCATGTATGTTTCGCTGCGTGCCCTGGTGCCAGGTACACGGTCCTCTTCTCGCACGGCAATGCCGTGGACCTGGGC  
CAGATGAGCAGCTTCTACATTGGCCTGGGCTCCCGCCTCCACTGCAACATCTTCTCCTACGACTACTCCGGCTAC  
GGTGCCAGCTCGGGCAGGCCTTCCGAGAGGAACCTCTATGCCGACATCGACGCCGCCTGGCAGGCCCTGCGCACC  
AGGTGA

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**FIGURE 5141**

GGGATTTGCACGGCAGCAGAGTCACCGTGGAGAGGCCAGGGTATCACAACTTATGGATTTTGACAAGAAAGGAG  
GGAAAGGGGAGACGGAGGAGGGCCGGAGAAATGTCCAAGGCCGGCGGGGCCGGAGCAGCCACGGCATCCGGAGCT  
CGGGGACCAGCTCGGGGGTCCCTGATGGTGGGCCCCAACTTCCGCGTCGGCAAGAAGATCGGCTGCGGCAACTTCG  
GGGAGCTCCGCCTAGGAAAGAATCTCTATACAAATGAATACGTGGCTATCAAATTGGAGCCGATCAAGTCCCCGGG  
CCCCGCAGCTGCACCTGGAGTACCGGTTCTACAAGCAGCTCAGCGCCACAGAGGGCGTCCCTCAGGTCTACTACT  
TCGGTCCGTGCGGGAATTACAACGCCATGGTGTCTGGAGCTGTGGGGCCAGCCTGGAGGACCTGTTTCGACCTGT  
GCGACCGGACCTTCACGCTCAAGACGGTGTCTGATGATCGCCATCCAGCTGATCACGCGCATGGAGTATGTGCACA  
CCAAGAGCCTAATCTACCGGGACGTGAAGCCCCGAGAACTTCCTGGTGGGCCGCCCCGGGGACCAAGCGGCAGCATG  
CCATCCACATCATCGACTTCGGGCTGGCCAAGGAGTACATCGACCCGAGACCAAGAAGCACATCCCGTACCGCG  
AGCACAAGAGCCTGACGGGCACGGCGCGCTACATGAGCATCAACACGCACCTGGGCAAGGAGCAGAGCCGCCGCG  
ACGACCTGGAGGCGCTGGGCCACATGTTTCACTTCCCTGCGCGGCAGCCTCCCTGGCAGGGGCTCAAGGCCG  
ACACGCTCAAGGAGCGGTACCAGAAGATCGGGGACACCAACGCGCCACGCCCATCGAGGTGCTCTGCGAGAAT  
TCCAGAGGAGATGGCCACGTACCTGCGCTATGTGCGGCGCTGGACTTCTTCGAGAAGCCCCGACTATGACTACC  
TGCGGAAGCTCTTACCGACCTCTTCGACCGCAGTGGCTTCGTGTTGACTATGAGTACGACTGGGCCGGGAAGC  
CCCTGCCGACCCCCATCGGCACCGTCCACACCGACCTGCCCTCCAGCCTCAGCTCCGGGACAAAACCCAGCCGC  
ACAGCAAAAACAGGCGTTGAACTCCACCAACGGGGAGCTGAATGCGGACGACCCACGGCCGGCCACTCCAACG  
CCCCGATCACAGCGCCTGCAGAGGTGGAGGTGGCCGATGAAACCAATGCTGCTGTTTCTTCAAGAGGAGAAAGA  
GAAAATCGCTGCAGCGACACAAGTGAACCTGGGCGCGTGCAGCCCCCTGAATCTTCTCCGTGCAGCCCCCTGGGG  
CGCGACCTTGTGCGAGGCCCTCGGGGCCACCCACAGCGGCCAGGGCCAGACCCTGGCTGGAAGCCAGAACGCA  
GACTGCAGGGGCCGCGCCTGGCTCAGGCGGCCCCACCCCGGGACGTGGGGTCACTTCCTTCATGTAAGACTTTG  
GCCGAAATTTCTACACCTGTGTCTAGTCTCCCTCCCAAGAGCATTAACTATTTAAACAAGGAAAAGAGGAAAA  
AAAAACAGAGGCCCGCCCTACCCCACTCCTGCCCTCCGTTTCTTTGCTGAAGTGAGTAGTGTGATCCTGGAGG  
CCCCCGGCCTGGCCCCGCCCCGCCAGCCGCCCTTAGCGTCATAAAGTCCAGCTTGTCTCCCTCGATCCAAA  
GGCCGTTTTCTCGAGGGGAGGGCAGGCCCGGCTGGAGGGGTGCTGTGGAGCTGTCTTGCCAGGCCCTCCTGGG  
AGGGGGACAGGCATTGTTGCCAGGGGTGAGGCCGTGCCCCAGGCCTCCCCGAAACCAAGGGGAAGGCAGGGGTG  
GGCCGTGGCTGAAGCCGGCTCCCCAACCAAAATGCTGCACCAAAGCTCGGGCGCCGCGGGCACGGCTGCTGCAG  
TCTCTTCCAGCCTGGCCCTGGCAAGGGGCGGGTGGGCGCTGCCAGGCGGGTGTCTTCGACGCACTTGCTCCCCG  
GAGGCTGCGCCCCGGCGCCTGGAACCCGAGGTGGGAGGACCGGTTGGTGTACCCTGCTCGGCCCTCAGCCCTGC  
CGCGTGGGGCGCGTGGGCACGGAGCTTCTGCTCTGCTCCGACACCCGGCAAGCAGCCGGAGACAAAACGCCTT  
AAAGCCCCCGGCCAGCCCTGCAGGTATATTGCAGGGGCTGGGGGCGGCCCTGGACTGGCGGGCGGTTCCCCAG  
TGGGTGCCCTGGAGGCTGCCGGGCAGAGTGGAGCAGCTTGGGGCGGTGCCAGGGCGGTGGCTGTGAGTCTAGT  
TTTGTCTTACCAAGTGTACAGAAATGGCATTACGTTTCTCTGATGCTCCCTTGAAGCCATAGAATTTAGGGGC  
TTTTTTAAAAAATAAAAGAAAAATGAAACCAAAAAAAAAAAAAA

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**FIGURE 5142**

MDFDKKGGKGETEEGRMSKAGGGRSSHGIRSSGTSSGVLVGPVFRVGGKIGCGNFGELRLGKNLYTNEYVAIK  
LEPIKSRAPQLHLEYRFYKQLSATEGVPQVYFPGPCGNYNAMVLELLGPSLEDLFDLCDRTFTLKTVMIAIQLI  
TRMEYVHTKSLIYRDVKPENFLVGRPGTKRQHAIHIIDFGLAKEYIDPETKKHIPYREHKSLTGTARYMSINTHL  
GKEQSRRDDLEALGHMFMYFLRGSLPWQGLKADTLKERYQKIGDTKRATPIEVLCEMFPEEMATYLRVRRDFF  
EKPDYDYLRLKLFDFDRSGFVFDYEDWAGKPLPTPIGTVHTDLPSQPQLRDKTQPHSKNQALNSTNGELNADD  
PTAGHSNAPITAPAEVEVADETKCCCFKRRKRKSLQRHK

[illegible]

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**FIGURE 5144**

MAAGGSGGRASCPPGVGVGPGTGGSPGPSANAAATPAPGNAAAAAAAAAAAAAPGPTPPAPPGPGTDAQAAGAE  
RAEEAAGPGAAALQREAAYNWQASKPTVQERFAFLFNNEVLCDVHFLVGKGLSSQRIPAHRFVLAVGSAVFDAMF  
NGGMATTSTEIELPDVEPA AFLALLKFLYSDEVQIGPETVMTTLYTAKKYAVPALEAHCVEFLKKNLRADNAFML  
LTQARLFDEPQLASLCLENIDKNTADAITAEGFTDIDLDTLVAVLERDTLGIREVRLFNAVVRWSEAEQRRQLQ  
VTPENRRKVLGKALGLIRFPLMTIEEFAAGPAQSGILVDREVVSLFLHFTVNP KPRVEFIDRPRCCLRGKECSIN  
RFQQVESRWGYSGTSDRIRFSVNKRIFVVGFGLYGSIHGPTDYQVNIQIIHTDSNTVLGQNDTGFSCDGSASTFR  
VMFKEPVEVLPNVNYTACATLKGPDSHYGTKGLRKVTHESPTTGAKTCFTFCYAAGNNNGTSVEDGQIPEVIFYT

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**FIGURE 5145**

TATTTATAAACACACTCACAGGGCCAGATTTGGGCCACGGGCCATAGTTGCCAGCCCGGCTTTAACTGCTGGTCC  
TCACGTTAGTCTCACTGCCTCCTGCAGGGTGGGCATGTGGGTGTCGTGTTACGCAGCCCCCTTCCTCCACCCAC  
AGACACGCTGGTGGCTGTCCTGGAGCGCGACACACTGGGCATCCGTGAGGTGCGGCTGTTCAATGCCGTTGTCCG  
CTGGTCCGAGGCCGAGTGTGAGCGGCAGCAGCTGCAGGTGACGCCAGAGAACAGGCGGAAGGTTCTGGGCAAGGC  
CCTGGGCCTCATTGCTTCCCGCTCATGACCATCGAGGAGTTCGCTGCAGGTAACAGAGCTCGGGCTCAGGGGCT  
GGTTTGGGAGGGGAGTGGCACACAGGTGGGCATCTGGGTACCGAGGATAGTGCCCCGAGTTCAGTGCAGGAAAGC  
CTGGCAGATGCCTGGCATATACAGATAGGAAGAAACCTGGCTTGTGAGGACGCGTCCACAGGGCCATCTGTTAGC  
CCCGGCCCGGCTCTGTCCCCACCGTGACACTGCCAGACCCCGCCTCTCGTGTCTGTCCAGCTGTTTTGGTGGCA  
TCTTCCCAGGAGGGAAGGGAGTCCCCGTCTCGCGCCCTTGTGCTACCTGCTGGTGCAGGTACCACTGTCTGTGAC  
GAGCTCAGGAGGGCTCTGACATGGCCGGGGTGGCTGTGATGCGCCCGAGTGGGCCTTGGGGTCCCCTGCTGCAGG  
GCCTGGGTTCAGGGTGACGTGAAGGGGCAGCGCTAACGATGCCTCCTGCCCTCGTGGCTGCTCACTGCCTGACG  
CCATCCAGCTCTGGAGCAAAACAGGCCTGGAACCTTCCAGAAGGGGCTGGGACAGAGCCCTGGGGCTGGTGCACA  
CTCGCCGTCTGGCCTTCCCCAGGTCCACGCGGCC

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**FIGURE 5146**

GCTGGCGGGGCCCCGACAGAAGATGGTGCAGAAGAAACCAGCCGAACCTTCAGGGTTTCCACCGTTCGTTCAAGGG  
GCAGAACCCCTTCGAGCTGGCCTTCTCCCTAGACCAGCCCGACCACGGAGACTCTGACTTTGGCCTGCAGTGCTC  
AGCCCGCCCTGACATGCCCCGCCAGCCAGCCATTGACATCCCGGACGCCAAGAAGAGGGGGCAAGAAGAAGAGCG  
CGGCCGGGCCACCGACAGCTTCTCGGGCAGGTTTGAAGACGTCTACCAGCTGCAGGAAGATGTGCTGGGGGAGGG  
CGCTCATGCCCCGAGTGCAGACCTGCATCAACCTGATCACCAGCCAGGAGTACGCCGTCAAGATCATTGAGAAGCA  
GCCAGGCCACATTCGGAGCAGGGTTTTTCAGGGAGGTGGAGATGCTGTACCAGTGCCAGGGACACAGGAACGTCCCT  
AGAGCTGATTGAGTTCTTCGAGGAGGAGGACCGCTTCTACCTGGTGTGTTGAGAAGATGCGGGGAGGCTCCATCCT  
GAGCCACATCCACAAGCGCCGGCACTTCAACGAGCTGGAGGCCAGCGTGGTGGTGCAGGACGTGGCCAGCGCCTT  
GGACTTTCTGCATAACAAAGGCATCGCCACAGGGACCTAAAGCCGGAAAACATCCTCTGTGAGCACCCCAACCA  
GGTCTCCCCCGTGAAGATCTGTGACTTCGACCTGGGCAGCGGCATCAAACCTCAACGGGGACTGCTCCCTATCTC  
CACCCCGGAGCTGCTCACTCCGTGCGGCTCGGCGGAGTACATGGCCCCGGAGTTAGTGGAGGCCTTCAGCGAGGA  
GGCTAGCATCTACGACAAGCGCTGCGACCTGTGGAGCCTGGGCGTCACTTGTATATCCTACTCAGCGGCTACCC  
GCCCTTCGTGGGCCGCTGTGGCAGCGACTGCGGCTGGGACCGCGCGAGGCCTGCCCTGCCTGCCAGAACATGCT  
GTTTGAGAGCATCCAGGAGGGCAAGTACGAGTTCCCCGACAAGGACTGGGCCCACATCTCCTGCGCTGCCAAAGA  
CCTCATCTCCAAGCTGCTGGTCCGTGACGCCAAGCAGAGGCTGAGTGCCGCCCAAGTCTGCAACACCCCTGGGT  
TCAGGGGTGCGCCCCGGAGAACACCTTGCCCACTCCCATGGTCTGTCAGAGGTGGGACAGTCACTTCCTCCTCCC  
TCCCCACCCCTGTGCGCATCCACGTGCGACCTGGAGGACTGGTCAGAACCGTTACTGTGAATGAGTGAAGATCCTG  
GAGGACCCTGGCCCCAGGCCAGTCCCATCGCTGGGGGACGGTGAACGGCCATGTGTTAATGTTACGATGTTTTT  
AAAAGACAAAAAAAAAAAAAAAAACCTCAAAAGTTTTTTTTAAAGTGGGGGAAAAACATCCAAGCACTTTAATTCCA  
ATGTACCAGGTGAACTGACGGAGCTCAGAAGTTTTCTTTACACCAACTGTCAATGCCGGAATTTTGTATTCTGT  
TTTGTAAGATTTAATAAAAGTCAAAAAACTTGCAAAAAAAAAAAAAA

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**FIGURE 5147**

MVQKKPAELQGFHRSFKGQNPFEAFSLDQPDHGDSDFGLQCSARPDMPASQPIDIPDAKKRGKKKKRGRATDSF  
SGRFEDVYQLQEDVLGEGAHARVQTCINLITSQEYAVKIIKQPGHIRSRVFREVELYQCQGHRNVLELIEFFE  
EEDRFYLVFEKMRGGSILSHHKRRHFNELEASVVVQDVASALDFLHNKGIAHRDLKPENILCEHPNQVSPVKIC  
DFDLGSGIKLNGDCSPISTPELLTPCGSAEYMAPELVEAFSEEASIYDKRCDLWSLGVILYILLSGYPPFVGRCG  
SDCGWDRGEACPACQNMLFESIQEGKYEFDPKDDAHISCAAKDLISKLLVRDAKQRLSAAQVLQHPWVQGCAPEN  
TLPTPMVLQRWDSHFLLPPHPCRIVRPGGLVRTVTVNE



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**FIGURE 5148A**

CCAAGCCTGAGTGTTAATTTAACTCTATGTTGTCCGCCGTGTAAACATCCGAGGTCATTTGTTGCGTTGAATTAT  
CTGACCATCCTTTTTTACTGTGACTCTTCCATTCTCTTTGGCAAGAAGTCCCCTTCTCGCCCCCAAACCAGCAA  
GGGACTCCCCACCTGGGTCTGTGCCCTGCCCGCGCTGGGGGCCGAGTCCTTGAATGTGGCTTCAGGGGGCTCCT  
GTCCTGACGGTTGCGTCCGGGGGAGGGGAAGGAAGGGCCGCTGTCGCCAAGGTTTTCTCTCCCAAGACCCACAGT  
GGGCCGCCGCGATGGCCCTCAAGATGGTGAAGGGCAGCATCGACCGCATGTTGACAAGAATCTGCAGGACTTGG  
TCCGCGGCATCCGTAACCACAAGGAGGACGAGGCAAAATACATATCTCAGTGCATTGATGAGATCAAGCAGGAGC  
TGAAGCAGGACAACATAGCGGTGAAGGCGAACGCGGTCTGCAAGCTGACGATTTTACAGATGTTGGGATACGACA  
TCAGCTGGGGCCGCTTCAACATCATAGAAGTGATGAGTGCCTCCAAGTTACCTTCAAGCGAATTGGCTACCTCG  
CTGCTTCCCAGAGCTTTCACGAAGGCACCGACGTCATCATGCTGACCACCAATCAGATCCGTAAGGACTTGAGCA  
GCCCCAGCCAGTACGACACAGGTGTTGCACTGACGGGTCTGTCCTGCTTCGTCACCCAGACCTTGCCAGAGACC  
TGGCAATGACATCATGACACTGATGTCACACACCAAGCCCTACATCAGGAAGAAGGCTGTGCTGATCATGTACA  
AGGTGTTCTGAAGTACCCCGAGTCGCTGCGCCCTGCCTTTCCCCGGCTGAAGGAGAAGCTGGAGGACCCCGACC  
CCGGGGTTGAGTCGGCTGCCGTCAATGTCATCTGCGAGCTGGCCAGACGCAACCCTAAGAACTACCTGTCCCTGG  
CCCCGCTCTTTTTCAAGCTGATGACGTCCTCCACCAACAACCTGGGTCTCATCAAGATCATCAAGCTGTTCCGGTG  
CTCTTACTCCTTTGGAACCGCGGCTGGGCAAGAAGCTGATCGAGCCCTCACCAATCTCATCCACAGCACGTCCTG  
CCATGTCTCTCCTCTATGAATGTGTGAACACCGTGATTGCACTGCTCATCTCGCTGTCTCCGGCATGCCCAACC  
ACAGCGCCAGCATCCAGCTTTGTGTTTCAAGAAATTAAGGATATTGATCGAGGACTCCGATCAGAACTTGAAGTACC  
TGGGGCTGCTGGCAATGTCCAAGATCCTGAAGACCCACCCCAAGTCCGTGCAGTCCCAAGGACCTCATCTGC  
AGTGCCTGGACGACAAGGACGAGTCCATCCGGCTGCGGGCCCTGGACCTGCTCTATGGGATGGTGTCCAAGAAGA  
ACCTGATGGAGATCGTGAAGAAGCTGATGACCCACGTAGACAAGGCAGAGGGTACCACCTACCGTGACGAGCTGC  
TCACCAAGATCATTGACATCTGCAGCCAGTCCAATACCAGTACATCACCAACTTCGAGTGGTACATCAGCATCC  
TGGTGGAGCTGACCCGGCTGGAGGGCACACGGCACGGCCACCTCATCGCCGCCCAAATGCTGGACGTGGCCATCC  
GCGTGAAGGCCATCCGCAAGTTTCGCCGTGTCCAGATGTCTGCGCTGCTTGACAGTGCACACCTGCTGGCCAGCA  
GCACCCAGCGGAACGGGATCTGTGAGGTGCTGTACGCTGCCGCTGGATCTGCGGGGAGTTCTCAGAGCATCTGC  
AGGAACCACACCACACTTTGGAGGCCATGCTGCGGCCAGAGTACCACGCTGCCAGGCCACATCCAGGCCGTGT  
ATGTGCAGAACGTGGTCAAGCTCTACGCCCTCATCTGCAGCAGAAGGAGCAGGCCGGGGAGGCAGAGGGCGCTC  
AGGCCGTACCCAGCTCATGGTGGACCGGCTGCCCCAGTTTGTGTCAGAGCGCAGACCTGGAGGTGCAGGAGCGGG  
CGTCTCTCTTTGCTGGGGAGCTGAACCCAGTGGCCCCAAGGCCAGAGAAGGTTCCAGTCCCCGAAGGCCTGG  
ACCTGGACGCCTGGATCAATGAGCCACTCTCGGACAGCGAGTCAGAGGACGAGAGGCCAGGGCCGTCTTCCACG  
AGGAGGAGCAGCGCGTCCCAAGCACCGGCCGTGCGAGGCGGACGAGGAGGAGCTGGCTCGGCGCCGAGAGGGCCC  
GGAAGCAGGAGCAGGCCAACAAACCCCTTCTACATCAAGAGCTCGCCATCGCCACAGAAGCGGTACCAGGACACCC  
CGGGCGTGGAGCACATTCCCGTGGTGCAGATTGACCTCTCCGTCCCCCTGAAGGTTCCAGGGCTGCCTATGTCTAG  
ATCAGTATGTGAAGCTGGAGGAGGAGCGGCGGCACCGGCAGAAGCTGGAGAAGGACAAGAGGAGGAAAAAGAGGA  
AGGAGAAGGAGAAGAAGGGCAAGCGCCGCCACAGCTCGCTGCCACGGAGAGCGACGAGGACATCGCCCCCTGCCC  
AGCAGGTGGACATCGTCACAGAGGAGATGCCTGAGAATGCTCTGCCAGCGACGAGGATGACAAAGACCCCAACG  
ACCCCTACAGGGCTCTGGATATTGACCTGGATAAGCCCTTAGCCGACAGCGAGAACTGCCTATTAGAAACACA  
GAAACACCGAGACCTCAAAATCCCCTGAGAAGGACGTTCCCATGGTAGAAAAGAAGAGCAAGAAACCCAAGAAGA  
AAGAGAAAAACACAAAGAGAAAGAGAGAGACAAGGAGAAGAAGGAGAAGGAGAAGAAGAAATCTCCCAAGC  
CTAAGAAGAAGAACACAGGAAGGAGAAGGAGGAGCGGACCAAGGCAAGAAGAAGTCCAAGAAGCAGCCTCCAG  
GCAGCGAGGAGGACGCGGGGAGCCGGTGCAGAATGGCGGCCAGAGGAGGAGCAGCTCCCGCTGAGTCCAGCT  
ACTCCCTCTCGCTGAAAATTCTATGTTAAATGACCTGTGACATCCGGGGCAGTCTGCAGGAGGACAGCCAGG  
TCACTGTGGCCATCGTGCTGGAGAACAGGAGCAGCAGCATCCTCAAGGGCATGGAGCTCAGCGTGCTGGACTCAC  
TCAATGCCAGGATGGCCCGGCCGAGGGCTCCTCCGTCCACGATGGCGTCCCCGTGCCTTTCCAGCTGCCCCAG  
GCGTCTCCAACGAAGCCAGTATGTGTTTACCATCCAGAGCATCGTCATGGCGCAGAAGCTCAAGGGGACCCGTG  
CCTTCATTGCCAAGAATGACGAGGGTGCAGCCACGAGAAGCTGGACTTCAGGCTGCATTTCAGCTGCAGCTCCT  
ACTTGATCACCCTCCCTGCTACAGTGACGCTTTGTAAAGTTGCTGGAGTCTGGGGACTTGAGCATGAGCTCAA  
TCAAAGTCGATGGCATTCCGATGTCCTTCCAGAATCTTCTGGCGAAGATCTGTTTTACCACCATTTTTCCGTTG

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**FIGURE 5148B**

TGGAGCGAGTGGACTCCTGCGCCTCCATGTACAGCCGCTCCATCCAGGGCCACCATGTCTGCCTCCTGGTGAAAA  
AGGGTGAGAACTCTGTCTCAGTCGACGGGAAGTGCAGTGA CTCCACGCTACTGAGCAACTTGTTAGAAGAGATGA  
AGGCGACGCTGGCCAAGTGTGAGAGCTGCCTGCGAGCCCCGACCAACCCGCGGAGCACGTACCCAGGGACCGC  
AGCCCTGACGTGTCTCGCCTCTCCTCAGTCGTGTGTACTGTACCCAAGCCTGAGTGTTAATTTAACTCTATGTTG  
TCCGCCGTGTAGACATCCGAGGTCAATTTGTTGCGTTGAATTATCTGACCATCCTTTTTTACTGTGACTCTTCCCA  
TTCTCTTTGGCAAGAAGTCCCCCTTCTCGCCCCCAAACCAGCAAGGGACTCCCCACCTGGGTCTGTGCCCTGCCC  
CGCGCTGGGGGCCGAGTCCTTGAATGTGGCTTCAGGGGCTCCTGTCTGGGCCAGGGCCTGATGGGCACCACGTG  
AGGGGCACCTTGGTGGACAGGGCGGGGCTGACGTGGCCTCCTCTGGGGTCGCTGCTTTTGACCCAAAGGTCCTGA  
CGGTTGCGTCCGGGGGAGGGGAAGGAAGGGCCGCTGTCGCCAAGGTTTTCTCTCCAGAACCCACAGTGGGAAAG  
CGGTCTTGCCAGGCGTTGTCCATTGTCAGTGTGCTCGTGGGCTGGTGA CTGGGTCTTGGGATCCCAGGCCACGCG  
CCAGCCAGGCTGTGGGCAGGGCGGGGCCAGGGACGCCAAAGAGAGGTTGCAGTCAGAACCGTGACGGGGTGGGT  
TGAGGCCTCTCTGCCACCCGTCTTCTGGTCAGCAGAAGTGCATCTCGGCTTGGGTTTGGGGTGGTCCGCATCCC  
CTGCTTGCCACTATGCGCACCAAGGTTTCCCCACATCCTTCCAGCACCCCTTAGGAAGGCCCAGGCAGGGCCTGG  
AAGCAGCGGACCTGGGCTGTTCTGTGTTGAAGGAGTGTGCCAGTGGCCTTGGGCAGGACCTGTGAGAGCCACCT  
CACAGGCAGAGCCCCCACCAGGCAGGGCAAGGAGACTCCGCTCACTCCCCACGGCCAGCGTGGGCACAGGACTGA  
CCCTTCTTCAGAGATAATGACATTTTATCTTCTCCTTTTGATGAAAACCTGTCACTTTAGCATGTAATCCATTACA  
GAATCCCATGCAGTGATTCCAGGATTTGAAATTGTATGATGTGTTACATAAGAATTTATTTGCTATCGACATTCC  
CGTATAAAGAGAGAGACATATCACGCTGCTGTCATGATTTTGTGTCAAGATGATCCAATAAAGTTGTAAACAGG

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**FIGURE 5149**

MALKMVKGSIDRMFDKNLQDLVRGIRNHKEDEAKYISQCIDEIKQELKQDNIAVKANAVCKLTYLQMLGYDISWA  
AFNIIEVMSASKFTFKRIGYLAASQSFHEGTDVIMLTNQIRKDLSSPSQYDTGVALTGLSCFVTPDLARDLAND  
IMTILMSHTKPYIRKKAVLIMYKVFLKYPESLRPAFPRLKEKLEDPDPGVQSAAVNVICELARRNPKNYLSLAPLF  
FKLMTSSTNNWVLIKI IKLFGALTPLEPRLGKKLIEPLTNLIHSTSAMSLLYECVNTVIAVLISLSSGMPNHSAS  
IQLCVQKLRILIEDSDQNLKYLGLLAMSKILKTHPKSVQSHKDLILQCLDDKDESIRLRALDLYGMVSKKNLME  
IVKKLMTHVDKAEGTTYRDELLTKIIDICSQSNYQYITNFEWYISILVELTRLEGTRHGHLIAAQMLDVAIRVKA  
IRKFAVSQMSALLDSAHLLASSTQRNGICEVLYAAAWICGEFSEHLQEPHHTLEAMLRPRVTTLPGHIQAVYVQN  
VVKLYASILQQKEQAGEAEGAQAVTQLMVDRLPQFVQSADLEVQERASCILQLVKHIQKLQAKDVPVAAEEVSALF  
AGELNPVAPKAQKKVPVPEGLDLDAWINEPLSDSESEDERPRAVFHEEEQRRPKHRPSEADEEEELARRREARKQE  
QANNPFYIKSSPSQKRYQDTPGVEHIPVVQIDLSVPLKVPGLPMSDQYVKLEEERRHRQKLEKDKRRKKRKEKE  
KKGKRRHSSLPTESDEDIAPAQQVDIVTEEMPENALPSEDDKDPNDPYRALDIDLDKPLADSEKLP IQKHRNTE  
TSKSPEKDVPMEKKS KKKKKKKKKKKKKKKKKKKSPKPKKKKKHRKEKEERTKGKKKSKKQPPGSEE  
AAGEPVQNGAPEEEQLPPESSYSLLAENSYVKMTCDIRGSLQEDSQVTVAIVLENRSSSILKGMELSVLDSLNR  
MARPQGSSVHDGVPVFPQLPPGVSNEAQYVFTIQSIVMAQKLKGTLSFIAKNDEGATHEKLDLFRHFSCSSYLIT  
TPCYSDAFAKLLESGLSMSSIKVDGIRMSFQNLAKICFHHHFSVVERVDSCASMYSRSIQGHHVCLLVKKGEN  
SVSVDGKCS DSTLLSNLLEEMKATLAKC

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**FIGURE 5150A**

GCGGCCGTCCACTGGACTCCTGCGCCATATCCTGCAGCAGGTCTACAACCACTCGGTGACCGACCCCGAGAAGCT  
CAACAACCTACGAGCCCTTCTCCCCGAGGTGTACGGGGAGACCTCCTTCGACCTGGTGGCCCCAGATGATTGATGA  
GATCAAGATGACCGACGACCTGTTTGTGGACTTGGGGAGCGGTGTGGGCCAGGTGCTGCTCCAGGTTGCTGC  
TGCCACCAACTGCAAACATCACTATGGCGTCGAGAAAGCAGACATCCCGGCCAAGTATGCGGAGACCATGGACCG  
CGAGTTTCAGGAAGTGGATGAAATGGTATGGAAAAAGCATGCAGAATACACATTGGAGAGAGGCGATTTCCTCTC  
AGAAGAGTGGAGGGAGCGAATCGCCAACACGAGTGTATATTTGTGAATAATTTTGCCCTTGGTCCCTGAGGTGGA  
TCACCAGCTGAAGGAGCGGTTTGCAAACATGAAGGAAGGTGGCAGAATCGTGTCTCGAAACCCCTTGCACCTCT  
GAACCTTCAGAATAAACAGTAGAACTTGAGTGACATCGGCACCATCATGCGCGTGGTGGAGCTCTCGCCCTGAA  
GGGCTCGGTGTCTGAGACGGGGGAAGCCAGTCTCCTACTACCTGCACACTATCGACCGCACCATACTTGAAACTA  
TTTTTCTAGTCTGAAAAACCCAAACTCAGGGAGGAACAGGAGGCAGCCCGCGCGCCAGCAGCGCGAGAGCAA  
GAGCAACGCGGCCACGCCACTAAGGGCCAGAGGGCAAGGTGGCCGCGCCCGCGACGCCCCCATGGACTCTGG  
TGCTGAGGAAGAGAAGGCGGGAGCAGCCACCGTGAAGAAGCCGTCTCCCTCAAAGCCCGCAAGAAGAAGCTAAA  
CAAGAAGGGGAGGAAGATGGCTGGCCGCAAGCGCGGGCGCCCCAAGAAGATGAACACTGCGAACCCCGAGCGGAA  
GCCCAAGAAGAACCAAACTGCACTGGATGCCCTGCACGCTCAGACCGTGTCTCAGACGGCGGCTCCTCACCCCA  
GGATGCCTACAGATCCCCCTCACAGCCCGTCTACAGCTACCTCCGAGCGTGCAGCGGCACTCCCCAACCCGCT  
GCTGGTGGCGCCACCCCGCCGCTGCAGAAAGCTTCTAGAGTCTTCAAGATCCAGTACCTGCAGTTCTTGCC  
ATACACAAAGACCCCCCAGTACAAGGCCAGCTGCAGGAGCTGCTGGGCCAGGAGAAGGAGAAGAAGCGCCAGCT  
CCTGGGTGCGGCTCAGCAGCTCCTCAGCCACTGCCAGGCCCAGAAGGAGGAGATCAGGAGGCTGTTTCAGCAAAA  
ATTGGATGAGCTGGGTGTGAAGGCGCTGACCTACAACGACCTGATTCAAGCGCAGAAGGAGATCTCCGCCATAA  
CCAGCAGCTGCGGGAGCAGTCCGAGCAGCTGGAGCAGGACAACCGCGCGCTCCGCGGCCAGAGCTTGCAGCTGCT  
CAAGGCTCGCTGCGAGGAGCTGCAGCTGGACTGGGCCACGCTGTCTGCTGGAGAAGCTGTTGAAGGAGAAGCAGGC  
CCTGAAGAGCCAGATCTCGGAGAAGCAGAGGCACTGCCTGGAGCTGCAGATCAGCATTGTGGAGCTAGAGAAGAG  
CCAGCGGCAGCAGGAGCTCCTGCAGCTCAAGTCTGTGTGCCGCTGACGACGCCCTGTCCCTGCACCTGCGTGG  
GAAGGGCGCCCTGGGCGCGAGCTGGAGCCTGACGCCAGCCGGCTGCACCTGGAGCTGGACTGCACCAAGTTCTC  
GCTGCCTCACTTGAGCAGCATGAGCCCGAGCTCTCCATGAACGGCCAGGCTGCTGGCTATGAGCTCTGCGGTGT  
GCTGAGCCGGCCTTCGTGGAAGCAGAACACGCCCCAGTACCTGGCCTACCCCTGGACCAGGAGGTGGTGCCCTG  
TACCCCTAGCCACGTGCGCCGGCGCGCCTGGAGAAGCTGTCTGGCCTAGCCGCACCCGACTACACTAGGCTGTC  
CCCGGCCAAGATTGTGCTGAGGCGGCACCTGAGCCAGGACCACACGGTGCCCGGCAGGCGGCTGCCAGTGAGCT  
GCATTGAGAGCTGAGCACACCAAGGAGAAGCGCCTTCCCTACCAGAGCCCCAGCGTGCCTGGCAGCATGAAGCT  
GAGCCCTCAGGACCCGCGGCCCTGTCCCTGGGGCCTTGACGCTTGTGAGAGAAGAGCAGTGAGAAGGGCCT  
GAGAGAGCGCCTACGGCAGCAGCGGGGAGCTCATCACCAGCCTGCCCATCAGCATCCCGCTCAGCACCGTGCA  
GCCCCAACAGCTCCCGGTGAGCATTCCCTTGCCAGCGTGGTGTGCCAGCCGCGCCGAGAGGGCGAGGAGCAC  
CCCCAGTCCCGTGTGAGCCCCGTGACCCCTCGTCCACACTTGAAAAGCAGATTGGTGCTAATGCCACGGTGC  
TGGGAGCAGAAGCCTTGCCCTGGCCCCCGCAGGCTTCTCTACGCTGGCTCGGTGGCCATCAGCGGGGCTTGGC  
GGGCAGCCCGGCTCTCTCACACCTGGAGCCGAGCCGGCCACCTTGATGAGTCTCCAGCTCTGGGAGCCTTTT  
TGCCACCGTGGGTCCCGCAGCTCCACGCCACAGCACCCCTGCTGCTGGCACAGCCCCGGAACCTCGCTTCTCTGC  
CTCTCCCGCCCACCAGCTCTCTCCAGTCCCCGGCTTGGTGGGGCCGCCAGGGCCCGTTGCCCGAGGCCAGCAA  
GGGAGACCTGCCCTCCGATTCCGGCTTCTCAGATCCTGAGAGTGAAGCCAAGAGGAGGATTGTGTTACCATCAC  
CACTGGTGCGGGAGTGCCAAGCAGTCGCCCTCCAGCAAGCACAGCCCCCTGACCGCCAGCGCCCGTGGGGACTG  
TGTGCCGAGCCACGGGACGAGTGCAGGCGCGGCCGGAAGCGAGCATCTGCGGGGACGCCAGCTTGAG  
CGCAGGCGTGTCCCCAAGCGCCGAGCCCTGCCGTCCGTGCTGGCCTTTTACACAGCCTTCGGGGTCTCCCT  
CAACCTCAACTCCATGGTCAGTAACATCAACCAGCCCCCTGGAGATTACAGCCATCTCGTCCCCGAGACCTCCCT  
GAAGAGCTCCCTGTGCCCTACCAGGACCAGCAGCCCCCGTGTCAAGAAGGAGCGGCCTCTGAGCCAGAC  
CAATGGGGCACACTACTCCCCACTACCTCAGACGAGGAGCCAGGCTCTGAGGACGAGCCAGCAGTGCTCGAAT  
TGAGAGAAAAATTGCAACAATCTCCTTAGAAAGCAAACTCCCCCGAAAACCTTGAAAAATGGTGGTGGCTTGGC  
GGGAAGGAAGCCCGCGCCCGGCGAGCCAGTCAATAGCAGCAAGTGGAAGTCCACCTTCTCGCCCATCTCCGA  
CATCGGCTGGCCAAGTCGGCGGACAGCCGCTGCAGGCCAGCTCCGCCCTCAGCCAGAACTCCCTGTTTACGTT  
CCGGCCCGCCTGGAGGAGCCCTCTGCCGATGCCAAGCTGGCCGCTCACCCAGGAAAGGCTTCCCGGCTCCCT

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**FIGURE 5150B**

GTCTGGGGGCTGACGGACTCAGCCCGGGCACCAACCCTGCCAAACGGCTGCACCTTCGGCGGGGGCCTGGCCGCGGA  
CCTGAGTTTACACAGCTTCAGTGATGGTGCTTCTCTTCCCCACAAGGGCCCCGAGGCGGCCGGCCTGAGCTCCCC  
GCTGAGCTTCCCCCTCGCAGCGCGGCAAGGAGGGCTCGGACGCCAACCCTTTCCTGAGCAAGAGGCAGCTGGACGG  
CCTGGCTGGGCTGAAGGGCGAGGGCAGCCGCGGCAAGGAGGCAGGGGAGGGCGGCCTACCGCTGTGCGGGCCCCAC  
GGACAAGACCCCACTGCTGAGCGGCAAGGCCGCCAAGGCCCGGGACCGCGAGGTGACCTCAAGAATGGCCACAA  
CCTCTTCATCTCTGCGGCGGGCGTGCCTCCCGGAAGCCTCCTCAGCGGCCCCGGCCTGGCCCCGGCGGGCGTCTC  
CGCAGGCGGGCGGGCGTCCCTCCGCCAGACGCACCGGTCTTCTTGGGCCCCCTCCCGCCGGGACCGCAGTTTCG  
GCTCGGCCCCATGTCCCTGCAGGCCAACCTCGGCTCCGTGGCCGGCTCCTCCGTGCTGCAGTCGCTGTTTCAGCTC  
TGTGCCGGCCGCCGAGGCCTGGTGCACGTGTCTGCTGCCACAGACTGACCAACTCGCACGCCATGGGCAG  
CTTTTCCGGGGTGGCAGGCGGCACAGTTGGAGGTAAGTAGGATTTCTACCTCAACCGCGAGACCTATGCAAGGAC  
GGTGTGGACCAACTCGCGCCCGCGGCATGGTGGCCGCCGGCCTGCCGGGCTCCCACCCCTGGACGGCAGAGGCAA  
GGACGGACGGGAGCTCCACTGTGAATCGGCGGCACGCGCCGAGGAGGCTGGGACTGGTCCAGTTTGTACTGTCTG  
ATAGTTTITAGATAAAGTATTTATCATTTTTTTAAAAAGTATAAACAATTCTGACTTATTTTATTCCATCTAAGTGG  
TAAAAGGCACTTATTGAGAAATATAAATATCTATATATGAGAGCTCTATATAAAGACACGTGTCTGCAGGGCGG  
GCCGCCAGCGGATTGCCACAGCCTGCCCCGGTGCTATCTCGTCCCCAGGCCCGCGCCTGCCTCCACCCGCTTG  
GTGCTGACTAGACGCTGACAACGCCGAACCCCGTTCTCGGAAACGCCGCCCGCGGCTCCCCGACGCGCTGCT  
CCCGTACCAAAGGCAGGCCCGTCGCCACCACATTCCTCGGAGGCCTCCCCGCGGCTGAGCCCCCTTCTGAGCGC  
CCTGGCGCCTGCCCTGAGCTCTTACCTTTACCCCGGCACTGTGAACCCCCAGACTGTTACCCCTCCGGGGCGTG  
GGTTGCGCCCTTGCAATGTGAAGGGGCTGCGCGGTGACGCAGCTGGCCATGTGCTGCGCGATGGTGTGTGAGGA  
CGGCGCGGGCACGTTGAACAAGTGCAATTTACTTTTTGTATTTCTCGGCTGTCCATGGCTCGCAGCATGCCCTGCGA  
TGCGGGGCAGGCCTGTCGTGGGTCCCTTGGTGTCTGTACAGGAGAGAGTCACACTAATGAGTGGCAGTATTTT  
ATAGAGATGTGATGAGAATTTATAAATTTATAGATTTGACAGCTTTTATTTTATAGATGGTATAATGCACAGTGA  
AGAGGAAAGAAAAGCGAGGGGAAAAAACCTTATTTATTCAAACAGTGCACAAAATGGCCCCAGCGTCAGCCCCGA  
CCCTAGACCCCTCAGTTGCAGCTCCCAGCAGCCCAGACAGAGCTGCCGGCGCCCCCTGCCTGCCCCACATCCCTTC  
CTGTCAGGGCCACGCCTGGCACCCATCCCTTGGAGCCTGTGCTGGTTCTCCAGCTGCTGTGGGTGTGCTGGGGC  
CAGGGTGCACTGCTGAAACCTGGCCTCTCTGGCCCTAGGCCCCAGGGTGACGTGCGCCCCCACTCTGCAGCCTT  
GGCGGGTGCTGGGACTGGGTGTGGAAGGAGAGGAGCTGAGGCCGGGTGTAGCAGGCAGGCAGGGCCACTCCAG  
TGCTTCTGGAGCCCTGAGCAGTCAGGGCCTGGGTGTCTGAGCAGTGGTGGCTCTGTGCCCTCCCTGGAGGATGG  
GATCTGGGA

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**FIGURE 5151**

MIDEIKMTDDDLFVDLGSVGQVVLQVAAATNCKHHYGVEKADIPAKYAETMDREFRKWMKWYGKKHAEYTLERG  
DFLSEEWREIRIANTSVIFVNNFAFGPEVDHQLKERFANMKEGGRIVSSKPFAPLNFRINSRNLSDIGTIMRVVEL  
SPLKGSVSWTGKPVSYLHTIDRTILENYFSSLKNPKLREEQEAAARRRQORESKSNAATPTKGPEGKVAGPADAP  
MDSGAEEEKAGAAATVKKPSPSKARKKKLNKKGRKMAGRKRGRPKMNTANPERKPKKNQTALDALHAQTVSQTAA  
SSPQDAYRSPHSPFYQLPPSVQRHSPNPLLVAPTPPALQKLLESFKIQYLOFLAYTKTPQYKASLQELLGQEKEK  
NAQLLGAAQQLLSHCQAQKEEIRRLFQQKLDELGVKALTYNDLIQAQKEISAHNQQLREQSEQLEQDNRALRGQS  
LQLLKARCEELQLDWATLSLEKLLKEKQALKSQISEKQRHCLELQISIVELEKSQRQQELLQLKSCVPPDDALSL  
HLRGKGALGRELEPDASRLHLELDCTKFSPLPHLSSMSPELSMNGQAAGYELCGVLSRPSKQNTPOYLASPLDQE  
VVECTPSHVGRPRLEKLSGLAAPDYTRLSPAKIVLRRHLSQDHTVPGRPAASELHSRAEHTKENGLPYQSPSVPG  
SMKLSPODPRPLSPGALQLAGEKSSEKGLRERAYGSSGELITSLPISIPSTVQPNKLEVSIPLASVVLPSRAER  
ARSTPSPVLQPRDPSSTLEKQIGANAHGAGSRSLALAPAGFSYAGSVAISGALAGSPASLTPGAEPATLDESSSS  
GSLFATVGSRSSTPQHPLLLAQPRNSLPASPAHQLSSSPRLGGAAQGPLPEASKGDLPSDSGFSDEPESEAKRRIV  
FTITTGAGSAKQSPSSKHSPLTASARGDCVPSHGQDSRRRGRKRKRASAGTPSLSAGVSPKRRALPSVAGLFTQPS  
GSPLNLNSMVSNNINQPLEITAISSPETSLSKSSPVYQDHDQPPVLKKERPLSQTNGAHYSPLTSDEEPGSEDEPS  
SARIERKIATISLESKSPPKTLENGGLAGRKPAPAGEPVNSSKWKSTFSPI SDIGLAKSADSPLQASSALSQNS  
LFTFRPALEEPSADAKLAAHPRKGFPGSLSGADGLSPGTNPANGCTFGGGLAADLSLHSFSDGASLPHKGPEAAG  
LSSPLSFPSQRGKEGSDANPFLSKRQLDGLAGLKGEGRGKEAGEGGLPLCGPTDKTPLLSGKAAKARDREVDLK  
NGHNLFI SAAAVPPGSLLSGPGGLAPAASSAGGAASSAQTHRSFLGPFPFPQFALGPMQLQANLGSVAGSSVLQS  
LFSSVPAAGLVHVSSAATRLTN SHAMGSFSGVAGGTGGVFNHAVP SASAHPFGARVGRGAACGSATLGPSPLO  
AAASASASSFQAPASVETRPPPPPPPPPPPLPPPAHLGRSPAGPPVLHAPPPPNALPPPPPTLLASNPEPALLOS  
LASLPPNQAFLLPPTSAASLPPANASLSIKLTSLPHKGARPSFTVHHQPLPRLALAAQAPGIPQASATGPSAVWVS  
LGMPPPYAAHLSGVKPR

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**FIGURE 5152**

GGCACGAGGCTTTCTTTGCCCCCGCTTCGCCAAACGAAGTCGTGGAGGTGGCGAAACGAGGAGGAGATAACGCGG  
CCTTGGGCTCTGGTGTCTCCAGTCTGCTAAAGCCCTAAGGCCATCACCATGGACTTCCAGCATCGCCCCGGGGG  
CAAGACCGGGAGCGGGGGCGTGGCCTCCTCCTCCGAGAGCAACCGTGACCGCAGGGAGCGCCTCCGGCAGCTGGC  
CCTGGAGACCATCGACATCAACAAGGACCCGTACTTTCATGAAGAACCACCTGGGCTCCTATGAATGCAAACTCTG  
CCTGACACTTCACAACAATGAGGGGAGCTACCTGGCACATACGCAGGGGAAGAAGCACCAGACCAACCTGGCCCCG  
GCGAGCAGCCAAGGAGGCCAAGGAGGCCCTGCCCAGCCCGCGCCTGAGAAGGTCAAGGTGGAGGTGAAGAAGTT  
TGTGAAGATCGGCCCGCCGGCTACAAAGTGACCAAGCAGAGAGACTCGGAGATGGGCCAGCAGAGCCTCCTCTT  
CCAGATTGACTACCCTGAGATCGCCGAGGGCATCATGCCACGTACCGCTTCATGTCTGCGTACGAGCAGAGGAT  
CGAGCCTCCGGACCGGCGCTGGCAGTACCTGCTCATGGCCGCGAGCCCTACGAGACCATTGCCTTCAAGGTGCC  
GAGCAGAGAGATCGACAAGGCGGAGGGCAAGTTCTGGACACACTGGAACCGGGAGACCAAGCAGTTCTTCCTCCA  
GTTCCACTTTAAGATGGAGAAGCCCCCGGCTCCACCCAGCCTCCCTGCTGGCCCCCCTGGGGTGAAGCGGCCTCC  
ACCCCCGCTGATGAACGGTCTGCCCCCTCGGCCACCGCTGCCTGAGTCTTTGCCACCGCCCCCGCCAGGAGGCCT  
GCCTCTGCCACCCATGCCCCCACAGGGCCTGCGCCCTCAGGGCCCCCGGGACCACCCAGCTACCCCCGCCAGC  
TCCAGGGGTCCACCCCCGGCCCCAGTGGTGATCCCCCTGCATCTGGGGTCCATCCCCAGCTCCTGGCGTCCA  
CCCCCAGCTCCTGGCGTCCATCCCCAGCCCCCTGGGGTCCACCCACCAACCTCTGGGGTCCACCCCCAGCTCC  
TGGAGTCCACCTCCAGCCCCGGGGTTCACCCACCAGCCCCCGGAGTCCACCCACCAGCCCCCTGGGGTTCACCC  
ACCAGCCCCAGGGGTCCATCCTCCCCATCAGCGGGGGTTACCCCCAGGCCCCGGGGGTGCACCCAGCAGCCCC  
CGCCGTTACCTCAGGCCCCAGGGGTGCACCCACCAGCCCCAGGGATGCACCCTCAGGCCCCGGGGGTCCACCC  
CCAACCTCCCGGGGTCCATCCGTCGGCTCCTGGGGTCCACCCTCAGCCTCCGGGAGTTACCCCTCAAATCCTGG  
GGTGCACCCCCCAACTCCCATGCCCCCAATGCTGAGGCCCCCACTTCCCTCCGAAGGCCAGGGAACATACCTCC  
CCCTCCCCCAACCAACTGAGAGAGCTGCTCCCTCCCCCAGCAAGCCCAGCGCCAGGTGCTCTTGCTTTTCCCACT  
GAGAGAAGGCTGCTCTTTTGTACTGCCCCCGCTCATTAACAGCCTCCCCCAAAAAAAAAAAAAAAAAAAAA

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**FIGURE 5153**

MDFQHRP GGKTGSGGVASSSES NRDRRERLRQLALETIDINKDPYFMKNHLGSECKLCLTLHNNEGSYLAHTQG  
KKHQTNLARRAAKEAKEAPAPAPAEKVKVEVKKFVKIGRPGYKVTQKQDSEMGQQSLLFQIDYPEIAEGIMPRHR  
FMSAYEQRIEPPDRRWQYLLMAAEPYETIAFKVPSREIDKAEGKFWTHWNRETKQFFLQFHFKMEKPPAPPSLPA  
GPPGVKRPPFPLMNGLPPRPPLPESLPPPPPGGLPLPPMPPTGPAPSGPPGPPQLPPPAPGVHPPAPVVHPPASG  
VHPPAPGVHPPAPGVHPPAPGVHPPPTSGVHPPAPGVHPPAPGVHPPAPGVHPPAPGVHPPAPGVHPPPSAGVHPQ  
APGVHPAAPAVHPQAPGVHPPAPGMHPQAPGVHPQPPGVHPSAPGVHPQPPGVHPSNPGVHPPPTMPPPMLRPPLP  
SEGPGNIPPPPTN



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**FIGURE 5154**

TGCGAACGGCGAGCAGCGGCGGCGGCGGCGGAGAGACGCAGCGGAGGTTTTCTGGTTTCGGACCCCAGCGGCCGG  
ATGGTGAAATCCTCCCTGCAGCGGATCCTCAATAGCCACTGCTTCGCCAGAGAGAAGGAAGGGGATAAACCCAGC  
GCCACCATCCACGCCAGCCGCACCATGCCGCTCCTTAGCCTGCACAGCCGCGGCGGCAGCAGTGAGAGTTCC  
AGGGTCTCCCTCCACTGCTGTAGTAACCCGGGTCCGGGGCCTCGGTGGTGCTCCTGATGCCCCTCACCCACCCCT  
GAAGATCCCAGGTGGGCGAGGGAATAGTCAGAGGGATCACAACTTTTCAGCTAACTTATTCTACTCCGATGATCG  
GCTGAATGTAAACAGAGGAACTAACGTCCAACGACAAGACGAGGATTCTCAACGTCCAGTCCAGGCTCACAGACGC  
CAAACGCATTAACCTGGCGAACAGTGCTGAGTGGCGGCAGCCTCTACATCGAGATCCCGGGCGGCGCGCTGCCCCGA  
GGGGAGCAAGGACAGCTTTGCAGTTCTCCTGGAGTTCGCTGAGGAGCAGCTGCGAGCCGACCATGTCTTCATTTG  
CTTCCACAAGAACCGCGAGGACAGAGCCGCCTTGCTCCGAACCTTCAGCTTTTTGGGCTTTGAGATTGTGAGACC  
GGGGCATCCCCCTTGTCCTCCAAGAGACCCGACGCTTGCTTCATGGCCTACACGTTTCGAGAGAGAGTCTTCGGGAGA  
GGAGGAGGAGTAGGGCCGCTCGGGGCTGGGCATCCGGCCCCCTGGGGCCACCCCTTGTCAGCCGGGTGGGTAGGA  
ACCGTAGACTCGCTCATCTCGCCTGGGTTTGTCCGCATGTTGTAATCGTGCAAATAAACGCTCACTCCGAATTAG  
CGGTGTATTTCTTGAAGTTTAATATTGTGTTTGTGATACTGAAGTATTTGCTTTAATTCTAAATAAAAATTTATA  
TTTTACTTTTT

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**FIGURE 5155**

ACCATTCTGATGTTGGAGCGGCCTCGGTCCGGTTGACTTTGCGGACATGGAGGGCGGCTTCGGCTCCGATTTCGG  
GGGCTCCGGCAGCGGGAAGCTGGACCCAGGGCTCATAATGGAGCAGGTGAAAGTGCAGATCGCCGTGGCCAACGC  
GCAGGAGCTGCTGCAGAGGATGACGGACAAGTGTTTTCCGGAAGTGTATAGGGAAACCTGGGGGCTCCCTGGACAA  
CTCCGAGCAGAAGTGCATCGCCATGTGCATGGACCGCTACATGGACGCCTGGAACACCGTGCTCGCGCCTACAA  
CTCGCGGCTGCAGCGGGAACGAGCCAACATGTGACCGGCGAGCGCGGGCCACCCACCCCTGTTTCATTTCATAAA  
CGTGCTTTGAGAGGCGGGGTCCGCATGTACGTACTGCCTGCCCGGGCTTAGGAGGGTGGCACCGGTGCTGGGAC  
ACACGGGACTGTGTCCTCGCCACCCCCCGCCCTGCCCCCTGCCAGCCAGTGCAGCTTGGATCTCGGGGTGTGGG  
GCCCTGTGCCTTCCTGAAGTGCTGGCAGCCAGTGGCACCTCCTTCAGGCCTTTGGGGTATTCCCCTAGTGTGCC  
CAAGTCAGCCTCATATTCTGGGCGGACAGCTTGCTCTGGACTTCGGAGTTGGGGGTGGTCAGACACCACAGGAGCT  
GTCACCTCCTGCGGATGGGCAAATAAATTGGTGGAGGACGGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  
AAAAAAAAAAAAA

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**FIGURE 5156**

MEGGFGSDFGGSGSGKLDPGLIMEQVKVQIAVANAQELLQRM TDKCFRK CIGKPGGSLDNSEQKCIAMCMDRYMD  
AWNTVSRAYNSRLQRERANM

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**FIGURE 5157**

GGCACGAGGCCTCGTGCCGTTTTAATGGATATTTATTTTTTTTACATTGGTCAGTACACAGGTCAGGAGCTCACGC  
CAGGGCCTTGAGGACAGGCTGACCCTCCTCCCCGGGGTGGCGTGGGGCTGGGGCACCCTCCGACGGCAGAGCCTC  
CTTCAGAAAAGTGCAGCTCAAGTCTTAAAGACACCAAACTGAGCCATGGGCACGCGCCGTCTCCGGGGCCATGGCG  
TTCACATGCAGGGCGGGGGCGGCACCGCTCCCCTGTGACTGCATCCCGCCTCCCTGGGGACCTGCCTGTGGCAGGA  
AGGAATGGGGGGCCCCAGCCCCAGGCCGGGAAGGAGCCAGCGGCCGACAAAGCAGAAAACACCCGCTGCTCCACGT  
AGCCCCCTGCTCGCTGCTCCTTGCTCTCAGAAGTCCCGGTCCCATGTAGATAGAGGGGGGGCGCATCTTACCAAAGCA  
TTTCCTCCTGGAGGCTACGCCGCTGTGCTCCCAGTCAGGCGGCTGGTAGGGAGCTTTGCTGCCCGGGGATACC  
CTCTGCCAGCCGCTGGAAGTGGGAATGCTGGCGACAGACTGTGTCTCTTTCCACCTTCATAGCAGGAATCACC  
CGGACCCGACTGGCTGGGCTTCGTGCTAGCGAGGGTTCTGGGGGTGGGTCTTGGTGATCTTGTCCTATGGGGAGT  
CTGCAGTGGTCTCAGCCACATCCTATGTATTTTGGCTCTGGAGGAGCAAAGCTGTATCCTGGAGTTGGTCTGTGA  
TTTGCCGACAGCCTTGCAAGCTGGGCTCAGGGACAAAGTCCCCCCCCAAACCCGAGGTCTCATGTCCAGACGC  
TGCCAGTCTGTCTGAAACAGCACGCCCCAGGCCACAGAACCCCCCACCCTACATTTGCCCTGGGTGGAGC  
TGGGGGTGGTCCTAGGACTGCGGGTGCCCTTAGCTGAAGGGGGTGGGGAGAAGCGTGGACTGGGCAGCCTGTGGG  
TAATTGGAGGTTTATTGAGAATTGAGTCTTTGGAAACACTAAGAAAATCAAATTTTTAAAGTTATTTATGGCCT  
GGGAAACAATTTGCATTTGTCCCCAAATACGCTTAGCTGTGTGCCGCTTAGAACGATGCGAAACCATCCCTCTGT  
GTAAGCCCGTGCCGTGTGACTCGAAGCCTAGCGCCCTCCCTGCGAAGCATCAGACGCCACCCAGCCCTGGGGGGA  
GGCCACGCCTGCTGGACCAACGCGGGTTCTGGGGTGCACAGCGCCAGGTTAACGCTGAAGCCTGCCCCGCTGAG  
CCCAGGAGCCGGGAGGCCTGCGGGCTGACCCAGAAATCCGATCATGCACCTGTCTCATGCCAGCGGCTTTGGCTG  
GGGTTGGTCTGAAGCCTGCACGCGGCAGTTCITTTGTTAAAGATCTGAGGGACTCCTCAGTCTGGGGCGTCGCCG  
CCTGCAGCCTCTTCCAAGCCCTGCGTCCAGCGAGCGTCACAGCACAACCTGCAAAAACGGAGCTGGGCTGCAGCT  
GGGGCTGGCATGGACTTTTCAATTCAGAGATTTCGGTTTTTAAAGAAGATGCATGCCTAATGTGTTCTTTTTTTTTTC  
CAATGATTTGTAATATACATTTTATGACTGGAACTTTTTTGTACAACACTCCAATAAACATTTTGATTTTAAAA  
AAAAAAAAAAAAAAAA

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**FIGURE 5158**

MAFTAGRGRHRSPVTASRLPGDLPVAGRNGGPQPQAGKEPAADKAETPAAPRSPCSLSLLSEVPVPCR

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**FIGURE 5159**

CGTCGGACTACCGTTGGTTTTCCGCAACTTCCTGGATTATCCTCGCCAAGGACTTTGCAATATATTTTTCCGCCTT  
TTCTGGAAGGATTTTCGCTGCTTCCCGAAGGTCTTGGACGAGCGCTCTAGCTCTGTGGGAAGGTTTTGGGCTCTCT  
GGCTCGGATTTTGGCAATTTCTCCCTGGGGACTGCCGTGGAGCCGCATCCACTGTGGATTATAATTGCAACATGAC  
GCTGGAAGAGCTCGTGGCGTGCGACAACGCGGCGCAGAAGATGCAGACGGTGACCGCCGCGGTGGAGGAGCTTTT  
GGTGGCCGCTCAGCGCCAGGATCGCCTCACAGTGGGGGTGTACGAGTCGGCCAAGTTGATGAATGTGGACCCAGA  
CAGCGTGGTCCCTCTGCCTCTTGGCCATTGACGAGGAGGAGGAGGATGACATCGCCCTGCAAATCCACTTCACGCT  
CATCCAGTCCCTTCTGCTGTGACAACGACATCAACATCGTGCGGGTGTTCGGGCATGCAGCGCCTGGCGCAGCTCCT  
GGGAGAGCCGGCCGAGACCCAGGGCACCACCGAGGCCGAGACCTGCATTGTCTCCTGGTCACGAACCCTCACAC  
GGACGCCTGGAAGAGCCACGGCTTGGTGGAGGTGGCCAGCTACTGCGAAGAAAGCCGGGGCAACAACCAGTGGGT  
CCCCTACATCTCTCTTCAGGAACGCTGAGGCCCTTCCCAGCAGCAGAATCTGTTGAGTTGCTGCCACAAACAAAA  
AATACAATAAATATTTGAACCCCTCCCCCCCAGCACACCCCCCAAAACAACCAACCCACGAGGACCATCGG  
GGGCAGAGTCGTTGGAGACTGAAGAGGAAGAGGAGGAGGAGAAGGGGAGTGAGCGGCCGCCCCAGGGCGGAGAT  
CCAGGAGCTGGCGGCCGCCGATCCGATGGAGAAGGGGGGACCCAGGCCAGCAGGAGACAGGACCCCGAAGCTGA  
GGCCTTGGGATGGAGCAGAAGCCGGAGTGGCGGGGCACGCTGCCGCCTTCCCCATCACGGAGGGTCCAGACTGTC  
CACTCGGGGGTGGAGTGAGACTGACTGCAAGCCCCACCTCCTTGAGACTGGAGCTGGCGTCTGCATACGAGAGA  
CTTGGTTGAACTTGGTTGGTCCTTGTCTGCACCCTCGACAAGACCACACTTTGGGACTTGGGAGCTGGGGCTGAA  
GTTGCTCTGTACCCATGAACTCCCAGTTTGCGAATTATAGAGACAATCTATTTTGTACTTGCACTTGTTATTCG  
AACCCTGAGAGCGAGATGGGAAGCATAGATATCTATATTTTTATTCTACTATGAGGGCCTTGTAATAAATTC  
TAAAGCCTC

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**FIGURE 5160**

GGGCAGGGGCGTGGGCGGGGCGTGGACCAGCCGCGCCGAGCGGGGCTCTCCGGGCGCGTCTGTGGGGTCGAGA  
CTGCGCGGCCGTTGGGCGTGCAGCGGCGCCAGTCGGCGGACGAGGGGCCCCGGGAGTTGCTGGACTGAGACATG  
AGCCTCCAACCTGTGTGGTTGGGCTCGGTAGCACATCGTGGGACTTGGGTGTGCGCCACAGATGGTTTGGCCCTG  
CAGTGACCAGAGCAGCCCAAGCCGCCACCATGGTGAAATTGCTAGTGGCCAAAATCCTGTGCATGGTGGGCGTGT  
TCTTCTTCATGCTGCTCGGCTCCCTGCTCCCGTGAAGATCATCGAGACAGATTTTGAGAAGGCCCCATCGCTCGA  
AAAAGATCCTCTCTCTCTGCAACACCTTTGGAGGAGGGGTGTTTCTGGCCACGTGCTTCAACGCTCTGCTGCCCG  
CTGTGAGGGAAAAGCTCCAGAAGGTCCTGAGCCTCGGCCACATCAGCACCGACTACCCGCTGGCCGAAACCATCC  
TCCTGCTGGGCTTCTTCATGACCGTCTTCCTGGAGCAGCTGATCCTGACCTTCCGCAAGGAGAAGCCGTCCTTCA  
TCGACCTGGAGACCTTCAACGCCGATCGGACGTGGGCAGCGACTCGGAGTATGAGAGCCCCCTTCATGGGGGGCG  
CGCGGGGCCACGCGCTGTACGTGGAGCCCCACGGCCACGGCCCCAGCCTGAGCGTGCAGGGCCTCTCGCGCGCCA  
GCCCCGTGCGCCTGCTCAGCCTGGCCTTCGCGCTGTCGGCCCACTCGGTCTTTGAGGGCCTGGCCCTGGGCCTGC  
AGGAGGAGGGGAGAAAGTGGTGAGCCTGTTCTGTTGGGGTGGCCGTCCACGAGACACTGGTGGCCGTGGCCCTGG  
GCATCAGCATGGCCCGGAGTGCCATGCCCCCTGCGGGACGCGGCCAAGCTGGCGGTACCCGTAAGCGCCATGATCC  
CCCTGGGCATCGGCCTGGGCCTGGGCATTGAGAGCGCCAGGGCGTGCCGGGCAGCGTGGCGTCCGTGCTGCTGC  
AGGGCCTGGCGGGCGGCACCTTCCTCTTCATCACCTTCCTGGAGATCCTGGCCAAGGAGCTGGAGGAGAAGAGTG  
ACCGTCTGCTCAAGGTCTCTTCCTGGTGCTGGGCTACACCGTCTGGCCGGGATGGTCTTCCTCAAGTGGTGAG  
CGGCCTCGCCATTGTCCCTGCCGCCGGAGCCCGCCGGGAGCCCCGGGCCGACACAGGCCGCGTCCCCCGGCCGC  
GCGTCCCCCAAGAGCGAGCACTGTGGCCCTGGGCCACCACCTGTGCACAAGGGGCTCCCGGGACCAGGCTGTGC  
CCCCGATCCTACACCCTGAGCCTCAGAGCACTGCTACTTTTTTAAATACTTCTTTCTTTAAAGTCTTTACC

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**FIGURE 5161**

GGGCGTCGCGCCCTGGGGCCGGGGCCGGGCGGCACCGCGGTGCGCAAGCGCAACCGTCGGTGGGTGCGGGATCGG  
TCGCCTGAGAGGTATCACCTCTTCTGGGCTCAAGATGACACAACAAGAAGCGCCTGGCCTACGCCATCATCCAGTT  
CCTGCATGACCAGCTCCGGCACGGGGCCCTCTCGTCCGATGCTCAGGAGAGCTTGGAAGTCGCCATCCAGTGCCCT  
GGAGACTGCGTTTGGGGTGACGGTAGAAGACAGTGACCTTGCGCTCCCTCAGACTCTGCCGGAGATATTTGAAGC  
GGCTGCCACGGGCAAGGAGATGCCGCAGGACCTGAGGAGCCCCGCGCGAACCCCGCCTTCCGAGGAGGACTCAGC  
AGAGGCAGAGCGCCTCAAAACCGAAGGAAACGAGCAGATGAAAGTGGAACCTTTGAAGCTGCCGTGCATTTCTA  
CGGAAAAGCCATCGAGCTCAACCCAGCCAACGCCGTCTATTTCTGCAACAGAGCCGCAGCCTACAGCAAACCTCGG  
CAACTACGCAGGCGCGGTGCAGGACTGTGAGCGGGCCATCTGCATTGACCCGGCCTACAGCAAGGCCTACGGCAG  
GATGGGCCTGGCGCTCTCCAGCCTCAACAAGCACGTGGAGGCCGTGGCTTACTACAAGAAGGCTCTGGAGCTGGA  
CCCCGACAACGAGACATACAAGTCCAACCTCAAGATAGCGGAGCTGAAGCTGCGGGAGGCCCCAGCCCCACGGG  
AGGCGTGGGCAGCTTCGACATCGCCGGCCTGCTGAACAACCTGGCTTCATGAGCATGGCTTCGAACCTAATGAA  
CAATCCCCAGATTCAGCAGCTCATGTCCGGCATGATTTTCGGGTGGCAACAACCCCTTGGGAACCTCCGGCACCAG  
CCCCTCGCAGAACGACCTGGCCAGCCTCATCCAGGCGGGCCAGCAGTTTGCCAGCAGATGCAGCAGCAGAACCC  
AGAGTTGATAGAGCAGCTCAGGAGCCAGATCCGGAGTCGGACGCCAGCGCCAGCAACGACGACCAGCAGGAGTG  
ACGCTGCCTGCTCCCGGTGTGACCGCTCCTTCCCTGGCCGACCCGAAGGAAGCCTTCTGGTTGTCTGCCACTTC  
CTCCTGTTGGACTGCCTGAGAGAGGGGAAGAGAGAGACCTCGGACCTGCATGTCAAGATGGATTTTCCCCTTTTA  
TCTCTGCCCTCCTCCACTCCCTTTTTGTAACCTCCCTTACAGCCCCCAGACCCTTCTTGAAACGAGAGCCAGCAAG  
CTGAGCACAGACCAGCAGCGACCTCCCTTCCAGCCCCCAGAAAGCTCGGTCACTTGAGTGTTTTCTAGAATCCTG  
GGGTGCTCCCGGGCCGCTCTCAGAGAAGTGGCAGGTTTACGTTTCAGCCGTGTGGCGGATCGTGTGGCTTCCAAA  
GCCTTTTACAGCCCCCGCCCCCATCCCGTGGTCTGTCTGCAGGAACCTCTCCCGTCTGTGAGAAGCCTCTTTCCG  
AGTCGACCTCCCGGCCACCCCGGCCCTGTGCCTGCTCGGAAGAGCTCACTGCCAGCTGCGGCCTGGGCACCGCGG  
GCCATGTGTGTTTGCATGAGGAACCTTTAGTGGCAGACACCTAAGAGACGGCTGCGGTACCCCCACGCCTCCGC  
GGCTCAGGAGCCGTCTGGGTGCATAGGACCAGTTTCTGTGACTTTTCTCCAGTTGGGCATGTTGACAGACATGT  
TTCCCCCTCCTCCACCCCTCATTTTCTGGTCTCTCGGACTGAGAGCCAGGGGCGACATCATGACCTTCTGTCCCGG  
CCGCTTAGCCCCGGGCACAGGGAAGGCAGCTGGGCCGTTTCTGTCTGTGTCCCATCCTGCTGTCTTCTGTCTCT  
GGATGTTTTCATGGGCCCCGGGGCCCCCAGGGAAGCTTACCCCTCCTGTGCTGGGTGGAGGCCACGGGACACCTCA  
GGTGCCACCCACCTTGGCCCTAAACAGCCACCAGGAAAGCAGCCGGAGAGCCGGACAGCAGGCAGCCTGTCTGG  
GTTCTCTGAGGCCTGGGGGTGGCAGACGAGCCACGGCGCCGTGGTCCCAGCAGCAGGGTTGTAGTCGGAGCATC  
CTGGGGCTCCCTGGCTCCTGGCCGTCTGTGAGGTAGGCGCAGTACCGTGTATCGTAGGTAGCAGTAGGAACGGGG  
GCCGCCGCGGCCCTGCAGCCGCTCATGGCGGTGAGGTGTGTGCCAAGCCCACCGGGGTGCAGGGCGTGACGTGT  
GGGAATAAATAGCGTTGTGACCTCTAAAAAAAAAAAAAAAAAAAA